INITIAL REGULATORY FLEXIBILITY ANALYSIS

Prepared for

NOAA Fisheries Northwest Region

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Prepared by

northern economics inc.

880 H STREET, SUITE 210, ANCHORAGE, ALASKA 99501
T: 907.274.5600 **F:** 907.274.5601
E: norecon@norecon.com • www.northerneconomics.com

PROFESSIONAL CONSULTING SERVICES IN APPLIED ECONOMIC ANALYSIS

Anchorage

880 H St., Suite 210, Anchorage, AK 99501
TEL: 907.274.5600 **FAX:** 907.274.5601

President & Principal Economist: Patrick Burden, M.S. **Vice President & Senior Economist:** Marcus L. Hartley, M.S. **Senior Consultant, Planning Services:** Caren Mathis, MCP, AICP **Economists:** Leah Cuyno, Ph.D., Ken Lemke, Ph.D., Jonathan King, M.S. **Policy Analyst:** Nancy Mundy, Ph.D. **Socioeconomic Analyst:** Don Schug, Ph.D. **Analysts:** Michael Fisher, MBA, Cal Kerr MBA **Office Manager:** Stephanie Cabaniss **Document Production:** Terri McCoy

Bellingham

1801 Roeder Ave., Ste. 124, Bellingham, WA 98225
TEL: 360.715.1808 **FAX:** 360.715.3588

Associate Economist: Hart Hodges, Ph.D.
Economist: Tamer Kirac, M.A.
Analyst: Kelly Baxter-Porteen, M.S.

northern economics inc.

E-mail: norecon@norecon.com **Web:** www.northerneconomics.com

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This analysis addresses regulations that designate critical habitat for 13 Pacific salmon and steelhead evolutionarily significant units (ESUs) listed as "threatened" or "endangered" under the provisions of the Endangered Species Act. Table 1 describes each ESU in terms of ESA status, listing date and geographical scope.

Table 1. Descriptions of the 13 Pacific Salmon and Steelhead ESUs

ESU	ESA Status/ Listing Date[1]	Geographic Scope (State and County)
Upper Willamette River Steelhead	Threatened 3/99	OREGON—Benton, Clackamas, Linn, Marion, Multnomah, Polk, Washington, Yamhill
Upper Willamette River Chinook Salmon	Threatened 3/99	OREGON—Benton, Clackamas, Lane, Linn, Marion, Multnomah, Polk, Washington, Yamhill
Lower Columbia River Steelhead	Threatened 3/98	OREGON—Clackamas, Columbia, Hood River, Marion, Multnomah, Wasco, Washington, Yamhill WASHINGTON—Clark, Cowlitz, Klickitat, Lewis, Skamania
Lower Columbia River Chinook Salmon	Threatened 3/99	OREGON—Clackamas, Clatsop, Columbia, Hood River, Marion, Multnomah, Wasco, Washington, Yamhill WASHINGTON—Clark, Cowlitz, Klickitat, Lewis, Pacific, Skamania, Wahkiakum
Columbia River Chum Salmon	Threatened 3/99	OREGON—Clatsop, Hood River, Multnomah, Wasco WASHINGTON—Clark, Cowlitz, Klickitat, Lewis, Pacific, Skamania, Wahkiakum
Ozette Lake Sockeye Salmon	Threatened 3/99	WASHINGTON—Clallum
Oregon Coast Coho Salmon	Threatened 8/98	OREGON—Benton, Clatsop, Columbia, Coos, Curry, Douglas, Jackson, Josephine, Lane, Lincoln, Polk, Tillamook, Washington, Yamhill
Hood Canal Summer-run Chum Salmon	Threatened 3/99	WASHINGTON—Clallum, Jefferson, Kitsap, Mason
Upper Columbia River Spring-run Chinook Salmon	Endangered 3/99	OREGON—Gilliam, Hood River, Morrow, Multnomah, Sherman, Umatilla, Wasco, WASHINGTON—Benton, Chelan, Clark, Douglas, Franklin, Grant, Kittitas, Klickitat, Okanogan, Skamania, Walla Walla
Upper Columbia River Steelhead	Endangered 8/97	OREGON—Gilliam, Hood River, Morrow, Multnomah, Sherman, Umatilla, Wasco, WASHINGTON—Benton, Chelan, Clark, Douglas, Franklin, Grant, Kittitas, Klickitat, Okanogan, Skamania, Walla Walla
Middle Columbia River Steelhead	Endangered 3/99	OREGON—Gilliam, Grant, Hood River, Jefferson, Morrow, Multnomah, Sherman, Umatilla, Wasco, Wheeler, WASHINGTON—Benton, Clark, Columbia, Franklin, Kittitas, Klickitat, Skamania, Walla Walla, Yakima
Puget Sound Chinook Salmon	Threatened 3/99	WASHINGTON—Clallam, Jefferson, King, Kitsap, Mason, Pierce, Skagit, Snohomish, Thurston, Whatcom
Snake River Basin Steelhead	Threatened 8/97	IDAHO—Adams, Blaine, Clearwater, Custer, Idaho, Latah, Lemhi, Lewis, Nez Perce, Valley, OREGON—Union, Wallowa WASHINGTON—Asotin, Columbia, Garfield, Whitman

Summary of Impacts on Small Entities

An estimate of the number of firms in each ESU that are subject to the proposed rule and meet the SBA small business classification standard is provided in Table 2. The number of regulated small entities ranges from zero to 2,720 depending on the ESU (Table 2). The estimated co-extensive costs of section 7 consultation incurred by small entities range from $2.3 thousand to $60.4 million depending on the ESU (Table 2). The estimated total co-extensive costs across all ESUs are $132.5 million.

Table 2. A Comparison of the Proposed Critical Habitat Designation and Critical Habitat Designation with No Areas Excluded by ESU

	Proposed Critical Habitat Designation		Critical Habitat Designation with No Areas Excluded		Difference Between Critical Habitat Designations	
ESU	No. of Regulated Small Entities	Economic Impacts on Small Entities ($)	No. of Regulated Small Entities	Economic Impacts on Small Entities ($)	No. of Regulated Small Entities	Economic Impacts on Small Entities ($)
Columbia River Chum	897	10,621,932	902	10,737,799	5	115,867
Hood Canal Summer-run Chum	234	5,309,040	240	5,911,807	6	602,767
Lower Columbia River Chinook	1,449	17,145,634	2,415	24,220,415	966	7,074,781
Lower Columbia River Steelhead	1,568	16,773,133	2,110	22,295,796	542	5,522,663
Middle Columbia River Steelhead	1,144	14,987,486	1,177	16,224,293	33	1,236,807
Oregon Coast Coho	920	5,072,840	922	5,354,527	2	281,687
Ozette Lake Sockeye	0	2,375	0	2,375	0	0
Puget Sound Chinook	2,720	60,452,494	5,038	78,813,118	2,318	18,360,624
Snake River Basin Steelhead	810	13,489,430	843	13,768,900	33	279,470
Upper Columbia River Spring-run Chinook	420	6,669,609	510	7,440,914	90	771,305
Upper Columbia River Steelhead	532	9,381,065	641	14,160,136	109	4,779,071
Upper Willamette River Chinook	1,999	13,858,311	2,942	16,809,789	943	2,951,478
Upper Willamette Steelhead	1,753	5,244,233	2,681	8,006,074	928	2,761,841
All ESUs	8,432	132,513,966	12,873	161,165,746	4,441	28,651,780

Note: Many of the ESUs overlap, thus the row labeled "All ESUs" estimates unique effects and is not simply the sums of all ESUs.

NOAA Fisheries considered and rejected the alternative of not designating critical habitat for the 13 Pacific salmon and steelhead ESUs because it did not meet the legal requirements of the Endangered Species Act.

NOAA Fisheries also examined and rejected an alternative in which all the potential critical habitat of the 13 Pacific salmon and steelhead ESUs is proposed for designation. Under this alternative no areas are excluded for economic reasons. Through the section 4(b)(2) process of weighing benefits of exclusion against benefits of designation, NOAA Fisheries determined that the proposed designation of critical habitat provided an appropriate balance of conservation and economic mitigation and that excluding the areas proposed for exclusion would not result in extinction of the species. The proposed critical habitat designation would reduce the adverse economic impacts on entities, including small entities. It is estimated that excluding areas from the proposed rule designating critical habitat could save small entities from zero to $18.4 million in compliance costs depending on the ESU (Table 2). The estimated total savings across all ESUs are $28.7 million.

A third alternative that NOAA Fisheries examined and rejected considered excluding all habitat areas with a low or medium value. The section 4(b)(2) process determined that this alternative furthers the goal of reducing economic impacts; however, for many habitat areas the incremental economic gain from excluding that area is relatively small (Table 3). Moreover, this alternative is

not sensitive to the fact that for most ESUs, eliminating all low and medium value habitat areas is likely to significantly impede conservation. Because it is doubtful that the benefits of exclusion outweigh the benefits of specifying these areas as part of the critical habitat, NOAA Fisheries rejected this alternative.

Table 3. A Comparison of the Proposed Critical Habitat Designation and Critical Habitat Designation with Low and Medium Value Areas Excluded by ESU

	Proposed Critical Habitat Designation		Critical Habitat Designation with Low and Medium Value Areas Excluded		Difference Between Critical Habitat Designations	
ESU	No. of Regulated Small Entities	Economic Impacts on Small Entities ($)	No. of Regulated Small Entities	Economic Impacts on Small Entities ($)	No. of Regulated Small Entities	Economic Impacts on Small Entities ($)
Columbia River Chum	897	10,621,932	897	10,611,134	0	10,798
Hood Canal Summer-run Chum	234	5,309,040	167	4,962,780	67	346,261
Lower Columbia River Chinook	1,449	17,145,634	1,401	16,622,845	48	522,789
Lower Columbia River Steelhead	1,568	16,773,133	1,504	16,481,549	63	291,583
Middle Columbia River Steelhead	1,144	14,987,486	1,095	14,884,414	49	103,073
Oregon Coast Coho	920	5,072,840	697	3,875,130	223	1,197,710
Ozette Lake Sockeye	0	2,375	0	2,375	0	0
Puget Sound Chinook	2,720	60,452,494	2,656	60,165,244	64	287,250
Snake River Basin Steelhead	810	13,489,430	761	12,781,098	49	708,332
Upper Columbia River Spring-run Chinook	420	6,669,609	416	6,663,639	4	5,970
Upper Columbia River Steelhead	532	9,381,065	515	8,785,930	16	595,135
Upper Willamette River Chinook	1,999	13,858,311	1,789	13,127,006	210	731,305
Upper Willamette Steelhead	1,753	5,244,233	1,565	4,649,180	188	595,053
All ESUs	8,432	132,513,966	7,819	125,717,682	613	6,796,284

Note: Many of the ESUs overlap, thus the row labeled "All ESUs" estimates unique effects and is not simply the sums of all ESUs.

In describing the economic effects of including or excluding a particular area from critical habitat, it is probably not accurate to include all of the co-extensive impacts because it is unlikely that the impacts attributable to critical habitat designation would ever account for the total impacts. However, in examining its extensive consultation record, NOAA Fisheries could not discern a difference in the impact of applying section 7's jeopardy requirement versus applying the adverse modification requirement. For that reason, NOAA Fisheries decided to follow the recommendation of the Tenth Circuit Court of Appeals in a related case and analyze the full impact of the adverse modification requirement, regardless of whether it is coextensive with other requirements, such as jeopardy.

NOAA Fisheries has made a substantial effort to gather information regarding the economic impact of the regulatory action on all entities, including small entities. However, unavailable or inadequate data leaves some uncertainty surrounding both the numbers of entities that will be subject to the proposed rule and the characteristics of any impacts on particular entities.

II. Specific Requirement to Prepare an IRFA

When an agency proposes regulations, the Regulatory Flexibility Act (RFA) (5 U.S.C. § 601-612) requires the agency to prepare and make available for public comment an initial regulatory flexibility analysis (IRFA) that describes the impact of the proposed rule on small businesses, nonprofit enterprises, local governments, and other small entities. The IRFA is to aid the agency

in considering all reasonable regulatory alternatives that would minimize the economic impact on the small entities to which the proposed rule applies.

The level of detail and sophistication of the analysis should reflect the significance of the impact on small entities. Under 5 U.S.C., Section 603(b) of the RFA, each IRFA is required to address:

1. A description of the reasons why action by the agency is being considered;
2. A succinct statement of the objectives of, and the legal basis for, the proposed rule;
3. A description of and, where feasible, an estimate of the number of small entities to which the proposed rule will apply;
4. A description of the projected reporting, record keeping and other compliance requirements of the proposed rule, including an estimate of the classes of small entities that will be subject to the requirement and the type of professional skills necessary for preparation of the report or record;
5. An identification, to the extent practicable, of all relevant Federal rules that may duplicate, overlap or conflict with the proposed rule;
6. A description of any significant alternatives to the proposed rule that accomplish the stated objectives of applicable statutes and that minimize any significant economic impact of the proposed rule on small entities.

If a proposed rule is not expected to have a significant impact on a substantial number of small entities, the RFA allows an agency to so certify the rule, in lieu of preparing an IRFA. NOAA Fisheries examined in as much detail as practical the potential impact of the proposed critical habitat designation on a sector-by-sector basis. However, unavailable or inadequate data leaves some uncertainty surrounding both the numbers of entities that will be subject to the proposed rule and the characteristics of any impacts on particular entities. In particular, uncertainty exists regarding the nature and cost of project modifications that may be requested by NOAA Fisheries in consultations on Federally authorized, licensed, permitted, or funded activities. The problem is complicated by differences among entities—even in the same sector—as to the nature and size of their current operations, contiguity to waterways, etc. Therefore, to ensure a broad consideration of impacts on small entities, NOAA Fisheries has prepared this IRFA without first making the threshold determination whether the proposed critical habitat designation could be certified as not having a significant economic impact on a substantial number of small entities. NOAA Fisheries might determine such certification to be appropriate if established by information received in the public comment period.

III. Reasons for Considering the Proposed Action

Section 4(a)(3) of the Endangered Species Act of 1973, as amended (ESA) and implementing regulations (50 CFR 424.12) require the Secretary to designate critical habitat concurrently with the listing of a species to the maximum extent prudent and determinable. Given that the 13 Pacific salmon and steelhead evolutionarily significant units are Federally-listed as threatened or endangered under the ESA, NOAA Fisheries finds that the designation of critical habitat is required.

The benefits of critical habitat designation derive from section 7 of the Act, which requires Federal agencies, in consultation with NOAA Fisheries, to ensure that actions they carry out, permit, or fund are not likely to destroy or adversely modify critical habitat of such species. Moreover, a designation of critical habitat benefits a species by highlighting areas where the species occurs and by describing the features within those areas that are essential to the conservation of the species and that may require special management considerations or protection.

IV. Objectives and Legal Basis of the Proposed Rule

The purpose of the proposed rule is to designate the critical habitat for 13 Pacific salmon and steelhead evolutionarily significant units pursuant to the ESA.

NOAA Fisheries is responsible for determining whether species, subspecies, or distinct population segments of Pacific salmon and steelhead are threatened or endangered and which areas constitute critical habitat for them under the Endangered Species Act (ESA) (16 U.S.C. 1531 et seq.). To be considered for listing under the ESA, a group of organisms must constitute a "species," which is defined in section 3 to include "any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature." The agency has determined that a group of Pacific salmon or steelhead populations qualifies as a distinct population segment if it is substantially reproductively isolated and represents an important component in the evolutionary legacy of the biological species. A group of populations meeting these criteria is considered an "evolutionarily significant unit" (ESU) (56 FR 58612, November 20, 1991). In its ESA listing determinations for Pacific salmon and steelhead, NOAA Fisheries has treated an ESU as a "distinct population segment." To date, NOAA Fisheries has identified a total of 27 Pacific salmon or steelhead ESUs as threatened or endangered under the ESA, 25 of which are presently listed and two of which are proposed for listing (see 69 FR 33101, June 14, 2004)). Critical habitat has been designated for six of these ESUs, and 20 of these ESUs are currently under review for critical habitat designation.

As noted above, the ESA requires NOAA Fisheries to designate critical habitat for threatened and endangered species to the maximum extent prudent and determinable. Section 4(b)(2) of the ESA requires that critical habitat be designated "on the basis of the best scientific data available and after taking into consideration the economic impact, the impact on national security, and any other relevant impact, of specifying any particular area as critical habitat." This section grants the Secretary [of Commerce] discretion to exclude any area from critical habitat if he determines "the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat." The Secretary's discretion is limited, as he may not exclude areas if it "will result in the extinction of the species."

The ESA defines critical habitat under section 3(5)(A) as:

"(i) the specific areas within the geographical area occupied by the species, at the time it is listed . . . on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and

(ii) specific areas outside the geographical area occupied by the species at the time it is listed . . . upon a determination by the Secretary that such areas are essential for the conservation of the species."

Once critical habitat is designated, section 7 of the ESA requires Federal agencies to ensure they do not fund, authorize or carry out any actions that will destroy or adversely modify that habitat. This requirement is in addition to the section 7 requirement that Federal agencies ensure their actions do not jeopardize the continued existence of listed species.

V. Description and Number of Small Entities to which the Proposed Rule will Apply

Definition of a Small Entity

Three types of small entities are defined in the RFA:

Small Business. Section 601(3) of the RFA defines a small business as having the same meaning as small business concern under section 3 of the Small Business Act. This includes any firm that is independently owned and operated and is not dominant in its field of operation. The U.S. Small Business Administration (SBA) has developed size standards to carry out the purposes of the Small Business Act, and those size standards can be found in 13 CFR 121.201. The size standards are matched to North American Industry Classification System (NAICS) industries. The SBA definition of a small business applies to a firm's parent company and all affiliates as a single entity.

Small Governmental Jurisdiction. Section 601(5) defines small governmental jurisdictions as governments of cities, counties, towns, townships, villages, school districts, or special districts with a population of less than 50,000. Special districts may include those servicing irrigation, ports, parks and recreation, sanitation, drainage, soil and water conservation, road assessment, etc. Most tribal governments will also meet this standard. When counties have populations greater than 50,000, those municipalities of fewer than 50,000 can be identified using population reports. Other types of small government entities are not as easily identified under this standard, as they are not typically classified by population.

Small Organization. Section 601(4) defines a small organization as any not-for-profit enterprise that is independently owned and operated and not dominant in its field. Small organizations may include private hospitals, educational institutions, irrigation districts, public utilities, agricultural co-ops, etc. Depending upon state laws, it may be difficult to distinguish whether a small entity is a government or non-profit entity. For example, a water supply entity may be a cooperative owned by its members in one case and in another a publicly chartered small government with the assets owned publicly and officers elected at the same elections as other public officials. NOAA Fisheries encourages comment from any small organization that believes the proposed critical habitat designation may impact its activities.

Description of Small Entities to Which the Proposed Rule will Apply

Federal courts and Congress have indicated that a RFA analysis should be limited to small entities subject to the proposed regulation.[1] As such, small entities to which the proposed rule will not apply are not considered in this analysis.[2]

As noted previously, section 7 of the ESA requires each Federal agency to insure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of designated critical habitat. To prevent this result, Federal agencies must "consult" with NOAA Fisheries.

The consultation process is not restricted to direct agency action, but is required whenever a Federal nexus is present, such as when a Federal agency must authorize, approve, or fund a state

[1] *Mid-Tec Elec. Coop v. FERC*, 773 F.2d 327 (D.C. Cir. 1985).

[2] *Cement Kiln Recycling Coalition et. al. v. EPA*, 255 F.3d 855 (2001).

or private action. Activities on land owned by individuals, organizations, states, local and Tribal governments only require consultation with NOAA Fisheries if their actions involve Federal funding, licensing, permitting, or authorization. Federal actions not affecting the species or its critical habitat, as well as activities on non-Federal lands that are not Federally funded, authorized, licensed, or permitted, do not require section 7 consultation. For consultations concerning activities on Federal lands, the relevant Federal agency consults with NOAA Fisheries. For consultations where the consultation involves an activity proposed by a state or local government or a private entity (the "applicant"), the Federal agency with the nexus to the activity (the "action agency") serves as the liaison with NOAA Fisheries.[3]

Examples of actions that may be subject to a Federal nexus and a section 7 consultation include, but are not limited to:

(a) actions intended to conserve listed species or their habitat;

(b) the promulgation of regulations;

(c) the granting of licenses, contracts, leases, easements, rights-of-way, permits, or grants-in-aid; or

(d) actions directly or indirectly causing modifications to the land, water, or air.

Based on an examination of an array of activities with a Federal nexus sufficient to trigger section 7 consultation requirements regarding critical habitat, this economic analysis identified the nature of the small businesses that will be subject to the proposed rule. Special attention was paid to identifying small businesses expected to face more significant impacts than other industry sectors as a result of the rule. Table 4 presents a list of the major relevant activities with a Federal nexus and descriptions of the industry sectors involved in those activities, including NAICS codes and the SBA thresholds for determining whether a firm is small.

[3] Applicant refers to any person who requires formal approval or authorization from a Federal agency as a prerequisite to conducting the action (50 CFR 402.02).

Table 4. Major Relevant Activities with a Federal Nexus and a Description of the Industry Sectors Engaged in Those Activities

Major Relevant Activity and Federal Nexus	Description of Industry Sector	NAICS Code	SBA Size Standard
§4 and 23(b) of the Federal Power Act give the Federal Energy Regulatory Commission (FERC) the authority to license projects located on Federal lands or navigable or commerce clause waters and which use water to generate power.	**Hydroelectric Power Generation** This industry comprises establishments primarily engaged in operating hydroelectric power generation facilities. These facilities use water power to drive a turbine and produce electric energy. The electric energy produced in these establishments is provided to electric power transmission systems or to electric power distribution systems.	221111	4 million megawatt hours for the preceding fiscal year[1]
Under §10 of the Rivers and Harbors Act, the U.S. Army Corps of Engineers (ACOE) permits in-water structures, including irrigation pipes and other water withdrawal structures.	**Water Supply and Irrigation Systems** This industry comprises establishments primarily engaged in operating water treatment plants and/or operating water supply systems. The water supply system may include pumping stations, aqueducts, and/or distribution mains. The water may be used for drinking, irrigation, or other uses.	22131	$6 million average annual receipts
Federal nexus activities for timber and livestock operators include timber sales and grazing allotments permitted by the U.S. Forest Service or Bureau of Land Management.	**Forestry and Logging** Industries in the Forestry and Logging sector grow and harvest timber on a long production cycle (i.e., of 10 years or more).	113	$6 million average annual receipts
	Beef Cattle Ranching and Farming This industry comprises establishments primarily engaged in raising cattle (including cattle for dairy herd replacements).	112111	$750,000 average annual receipts
The typical Federal nexuses for road/bridge construction and maintenance activities are either funding from the Federal Highway Administration for transportation projects and/or Clean Water Act §404 permitting from the ACOE for projects with the potential to discharge dredged or fill material into navigable waters. Roads, highways, and bridges may also be considered point sources of pollution and require a National Pollutant Discharge Elimination System (NPDES) storm water permit under §402 of the Clean Water Act.	**Highway, Street, and Bridge Construction** This industry comprises establishments primarily engaged in the construction of highways (including elevated), streets, roads, airport runways, public sidewalks, or bridges. The work performed may include new work, reconstruction, rehabilitation, and repairs.	237310	$28.5 million average annual receipts

Major Relevant Activity and Federal Nexus	Description of Industry Sector	NAICS Code	SBA Size Standard
The primary Federal nexus for utility related activities is the ACOE, which authorizes Clean Water Act §404 permits for projects with the potential to discharge dredged or fill material into navigable waters. Another possible nexus for utility related activities is FERC licensing of the interstate transmission of electricity, oil, and natural gas by pipeline.	**Electric Power Generation, Transmission and Distribution** This industry group comprises establishments primarily engaged in generating, transmitting, and/or distributing electric power. Establishments in this industry group may perform one or more of the following activities: (1) operate generation facilities that produce electric energy; (2) operate transmission systems that convey the electricity from the generation facility to the distribution system; and (3) operate distribution systems that convey electric power received from the generation facility or the transmission system to the final consumer.	221111, 221112, 221113, 221119, 221121, 221122	4 million megawatt hours for the preceding fiscal year [1]
	Natural Gas Distribution This industry comprises: (1) establishments primarily engaged in operating gas distribution systems (e.g., mains, meters); (2) establishments known as gas marketers that buy gas from the well and sell it to a distribution system; (3) establishments known as gas brokers or agents that arrange the sale of gas over gas distribution systems operated by others; and (4) establishments primarily engaged in transmitting and distributing gas to final consumers.	22121	500 employees
	Water Supply and Irrigation Systems (See description above)	22131	$6 million average annual receipts
	Sewage Treatment Facilities This industry comprises establishments primarily engaged in operating sewer systems or sewage treatment facilities that collect, treat, and dispose of waste.	221320	
Sand and gravel mining operations may request Clean Water Act §404 permits from the ACOE for projects with the potential to discharge dredged or fill material into navigable waters.	**Construction Sand and Gravel Mining** This industry comprises establishments primarily engaged in one or more of the following: (1) operating commercial grade (i.e., construction) sand and gravel pits; (2) dredging for commercial grade sand and gravel; and (3) washing, screening, or otherwise preparing commercial grade sand and gravel.	212321	500 employees

Major Relevant Activity and Federal Nexus	Description of Industry Sector	NAICS Code	SBA Size Standard
Private parties may request permits from the ACOE for a variety of activities that occur in waterways or involve modifying navigable waterways, such as construction in waterways (e.g., breakwaters, docks, piers), dredging projects, shoreline stabilization, construction and maintenance of oil and gas pipelines, irrigation withdrawal structures, and state or local water supply projects.	**Water and Sewer Line and Related Structures Construction** This industry comprises establishments primarily engaged in the construction of water and sewer lines, mains, pumping stations, treatment plants and storage tanks.	237110	$28.5 million average annual receipts
	Oil and Gas Pipeline and Related Structures Construction This industry comprises establishments primarily engaged in the construction of oil and gas lines, mains, refineries, and storage tanks.	237120	
	Power and Communication Line and Related Structures Construction This industry comprises establishments primarily engaged in the construction of power lines and towers, power plants, and radio, television, and telecommunications transmitting/receiving towers.	237130	
	Marinas This industry comprises establishments engaged in operating docking and/or storage facilities for pleasure craft owners, with or without one or more related activities, such as retailing fuel and marine supplies; and repairing, maintaining, or renting pleasure boats.	713930	$6 million average annual receipts
	Other Heavy and Civil Engineering Construction This industry comprises establishments primarily engaged in heavy and engineering construction projects (excluding highway, street, bridge, and distribution line construction).	237990	$17 million average annual receipts
The most common nexus for residential and related development is a Federal permit for stormwater outfall construction/expansion issued by the ACOE.	**Land Subdivision** This industry comprises establishments primarily engaged in servicing land and subdividing real property into lots, for subsequent sale to builders. Servicing of land may include excavation work for the installation of roads and utility lines. Land subdivision precedes building activity and the subsequent building is often residential, but may also be commercial tracts and industrial parks	237210	$6 million average annual receipts

Major Relevant Activity and Federal Nexus	Description of Industry Sector	NAICS Code	SBA Size Standard
As authorized by the Clean Water Act, NPDES permit program administered by the Environmental Protection Agency controls water pollution by regulating point sources that discharge pollutants (including thermal pollutants) into U.S. waters. Point sources are discrete conveyances such as pipes or man-made ditches. Industrial and municipal facilities must obtain NPDES permits if their discharges go directly to surface waters. Separate storm sewer systems and combined sewer and overflow systems may also be subject to NPDES permitting requirements.	**Fishing, Hunting, Trapping** Industries in this sector harvest fish and other wild animals from their natural habitats and are dependent upon a continued supply of the natural resource. The harvesting of fish is the predominant economic activity of this sector and it usually requires specialized vessels that, by the nature of their size, configuration and equipment, are not suitable for any other type of production, such as transportation.	114	$3.5 million average annual receipts
	Food Manufacturing Industries in this sector transform livestock and agricultural products into products for intermediate or final consumption. The industry groups are distinguished by the raw materials (generally of animal or vegetable origin) processed into food products.	311	500 employees
	Sewage Treatment Facilities (See description above)	221320	$6 million average annual receipts
	Paper and Pulp Mills This industry comprises establishments primarily engaged in manufacturing paper and/or pulp.	322121, 322122, 322110	750 employees
	Wood Product Manufacturing Industries in this sector manufacture wood products, such as lumber, plywood, veneers, wood containers, wood flooring, wood trusses, manufactured homes (i.e., mobile home), and prefabricated wood buildings.	321	500 employees

[1] NAICS codes 221111, 221112, 221113, 221119, 221121, 221122 – A firm is small if, including its affiliates, it is primarily engaged in the generation, transmission, and/or distribution of electric energy for sale and its total electric output for the preceding fiscal year did not exceed 4 million megawatt hours.

Small governments as well as small businesses own and operate various hydroelectric power facilities, water supply and irrigation systems, and sewage treatment facilities. Moreover, small governments may also undertake utility line projects and carry out land subdivision for residential, commercial, and industrial development. Consequently, both small governments and small businesses will be directly regulated by the proposed rule. The number of small governmental entities that will be directly affected by the rule is unknown. However, a review of the historical consultation record suggests that the number of consultations involving small governments is likely to be small.

Estimate of the Number of Small Entities to Which the Proposed Rule will Apply

NOAA Fisheries has determined that the most practical unit of analysis for designating critical habitat of the 13 listed Pacific salmon/steelhead ESUs is a watershed unit defined by the U.S.

Geological Service as a hydrologic unit. Each hydrologic unit is identified by a unique hydrologic unit code (HUC) consisting of two to eight digits based on the four levels of classification in the hydrologic unit system. NOAA Fisheries determined the smallest practical hydrologic unit to analyze is that designated by a fifth field code (referred to as a fifth field HUC or HUC5).

However, it is not possible to directly determine the number of firms in each industry sector in each of the hydrologic units designated as critical habitat because of the geo-political coverage of business activity data sets. The closest approximations to the units of interest for which data are available are counties. Counties included in this analysis area were identified using data provided by NOAA Fisheries on watershed land area included in the ESU and maps provided by NOAA Fisheries identifying the boundary of the ESU. Where the intersection of a county and the ESU is unpopulated, that county has been excluded from the list unless the area of the intersection accounts for more than five percent of the county area.

For each county included in the analysis, an estimate of the total number of entities within each industry sector subject to the regulation was derived by searching the D&B Duns Market Identifiers (File 516) by NAICS code. This directory file is produced by Dun & Bradstreet, Inc. and contains basic company data on U.S. business establishment locations, including public, private, and government organizations. Census tract data from the 2000 Census of Population and Housing were used to indirectly estimate the number of businesses in each ESU by assuming that the number of businesses is directly proportional to population density.

The SBA definition of a small business applies to a firm's parent company and all affiliates as a single entity.[4] However, because complete ownership and affiliation information was unavailable for the firms in each ESU, some firms may have been incorrectly identified as small businesses. Consequently, it is possible that this analysis overestimates the number of small entities that will be regulated under the proposed action.

An estimate of the number of firms in each ESU that are subject to the proposed rule and meet the SBA small business classification standard is provided in Appendix A: Table 14-Table 37. Estimates of the number of regulated firms in each ESU are summarized in Table 5. An estimate of the total number of regulated entities across all ESUs is also provided; this number accounts for the overlap between ESUs for some of the watersheds.

[4] The SBA's "general principles of affiliation" are set forth in regulations at 13 CFR 121.103.

Table 5. Estimated Number of Regulated Small Entities by ESU and Industry Sector

ESU	Hydro-electric Power Generation[1]	Water Supply and Irrigation Systems	Forestry and Logging	Beef Cattle Ranching and Farming	Highway, Street, and Bridge Construc-tion	Electric Services/ Natural Gas Distribution[1]	Construc-tion Sand and Gravel Mining	Utility Line Construc-tion	Other Heavy and Civil Engineering and Construction	Land Sub-division	NPDES-Permitted Activities	Total
Columbia River Chum	14	7	181	70	113	22	7	64	80	100	239	897
Hood Canal Summer-run Chum	5	8	53	6	19	7	1	23	25	14	72	234
Lower Columbia River Chinook	21	45	219	107	165	32	11	121	118	195	415	1,449
Lower Columbia River Steelhead	37	42	189	87	147	54	8	138	114	298	453	1,568
Middle Columbia River Steelhead	30	63	132	272	109	49	6	79	71	74	260	1,144
Oregon Coast Coho	9	30	277	103	89	14	3	65	52	58	221	920
Ozette Lake Sockeye	0	0	0	0	0	0	0	0	0	0	0	0
Puget Sound Chinook	34	70	176	66	244	52	17	265	232	550	1,014	2,720
Snake River Basin Steelhead	14	35	147	224	69	26	4	51	45	45	152	810
Upper Columbia River Spring-run Chinook	14	31	39	76	44	23	2	33	27	32	100	420
Upper Columbia River Steelhead	18	42	56	102	52	30	2	42	30	39	120	532
Upper Willamette River Chinook	30	58	254	133	181	51	16	168	138	346	624	1,999
Upper Willamette Steelhead	27	54	193	125	161	52	14	149	121	308	549	1,753
All ESUs[2]	139	272	1,180	838	787	214	48	699	616	1,163	2,476	8,432

[1] All entities in the Hydroelectric Power Generation and Electric Services Sectors are assumed to be small entities. Consequently, the compliance costs for small entities in these sectors represent an upper bound estimate. The number of small entities in the hydroelectric power generation and electrical services industries is unknown because of the unavailability of data related to small business thresholds. For both of these industry sectors the SBA defines a firm as "small" if, including its affiliates, it is primarily engaged in the generation, transmission, and/or distribution of electric energy for sale, and its total electric output for the preceding fiscal year did not exceed 4 million megawatt hours. It was not possible to locate a source that provides this information for all regulated entities within these sectors.

[2] Many of the ESUs overlap, thus the row labeled "All ESUs" estimates unique effects and is not simply the sums of all ESUs.

VI. Description of the Projected Reporting, Record Keeping and Other Compliance Requirements of the Proposed Rule

Description of Compliance Requirements of the Proposed Rule

As discussed above, section 7 of the ESA requires Federal agencies to ensure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of critical habitat. The ESA does not place requirements on any other parties to consider the effect of their actions on critical habitat. As a result, non-Federal entities can only be affected by critical habitat designation when the activities they carry out have a Federal nexus.

The proposed rule does not directly mandate "reporting" or "record keeping" within the meaning of the Paperwork Reduction Act. However, modifications to projects and activities taking place on designated land may include increased reporting or record keeping requirements. Review/reporting is already part of standard practices for managing activities (e.g., timber harvesting, grazing, and mining) in riparian areas, and the increased reporting costs associated with the proposed designation of critical habitat are expected to be minimal. Thus, the marginal reporting or record keeping costs, if any, that would be imposed by the proposed rule on regulated entities, including small entities, would not be substantial. Since the proposed rule does not directly mandate "reporting" or "record keeping" within the meaning of the Paperwork Reduction Act, the rule does not require professional skills for the preparation of "reports" or "records" under that Act.

The proposed rule contains compliance requirements not subject to the Paperwork Reduction Act. Specifically, a mandatory legal consequence of a critical habitat designation is the section 7 requirement of Federal agencies described above. The section 7 consultation process may involve both informal and formal consultation with NOAA Fisheries. Informal section 7 consultation is designed to assist the Federal agency and any applicant in identifying and resolving potential conflicts at an early stage in the planning process (50 CFR 402.13). Informal consultation consists of informal discussions between NOAA Fisheries and the agency concerning an action that may affect a listed species or its designated critical habitat. In preparation for an informal consultation, the Federal action agency or applicant must compile all biological, technical, and legal information necessary to analyze the scope of the activity and discuss strategies to avoid, minimize, or otherwise reduce impacts to listed species or critical habitat. During the informal consultation, NOAA Fisheries makes advisory recommendations, if appropriate, on ways to minimize or avoid adverse effects. If agreement can be reached, NOAA Fisheries will concur in writing that the action, as revised, is not likely to adversely affect listed species or critical habitat. Informal consultation may be initiated via a phone call or letter from the action agency, or a meeting between the action agency and NOAA Fisheries.

A formal consultation is required if the proposed action is likely to adversely affect listed species or designated critical habitat (50 CFR 402.14). An analysis conducted during formal consultations determines whether a proposed agency action is likely to jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat. Some of the activities NOAA Fisheries believes could result in the destruction or adverse modification of critical habitat of listed Pacific salmon and steelhead ESUs include, but are not limited to:

1. Land-use activities that adversely affect a listed Pacific salmon/steelhead ESU's habitat (e.g., logging, grazing, or road construction, particularly when conducted in riparian areas or in areas susceptible to mass wasting and surface erosion);

2. Destruction or alteration of a listed Pacific salmon/steelhead ESU's habitat (aside from habitat restoration activities), such as removal of large woody debris and "sinker logs" or riparian shade canopy, dredging, discharge of fill material, draining, ditching, diverting, blocking, or altering stream channels or surface or ground water flow;
3. Discharges or dumping of toxic chemicals or other pollutants (e.g., sewage, oil, gasoline) into waters or riparian areas supporting the listed Pacific salmon/steelhead ESUs;
4. Violation of discharge permits;
5. Pesticide applications in violation of Federal restrictions;
6. Introduction of non-native species likely to prey on a listed Pacific salmon/steelhead ESU or displace it from its habitat;
7. Water withdrawals in areas where important spawning or rearing habitats may be adversely affected, or otherwise altering streamflow when it is likely to impair spawning, migration, or other essential functions;
8. Constructing or maintaining barriers that eliminate or impede a listed Pacific salmon/steelhead ESU's access to habitat essential for its survival or recovery;
9. Removing, poisoning, or contaminating plants, fish, wildlife, or other biota required by a listed Pacific salmon/steelhead ESU for feeding, sheltering, or other essential functions;
10. Releasing non-indigenous or artificially propagated individuals into a listed Pacific salmon/steelhead ESU's habitat;
11. Constructing or operating inadequate fish screens or fish passage facilities at dams or water diversion structures in a listed Pacific salmon/steelhead ESU's habitat;
12. Constructing or using inadequate bridges, roads, or trails on stream banks or unstable hill slopes adjacent or above a listed Pacific salmon/steelhead ESU's habitat; or
13. Constructing or using inadequate pipes, tanks, or storage devices containing toxic substances, where the release of such a substance is likely to significantly modify or degrade a listed Pacific salmon/steelhead ESU's habitat.

Regulations at 50 CFR 402.16 require Federal agencies to reinitiate consultation on previously reviewed actions in instances where critical habitat is subsequently designated and the Federal agency has retained discretionary involvement or control over the action or such discretionary involvement or control is authorized by law. Consequently, some Federal agencies may request reinitiation of consultation or conference on actions for which formal consultation has been completed, if those actions may affect designated critical habitat or adversely modify or destroy proposed critical habitat.

The biological opinion is the document that states the opinion of NOAA Fisheries as to whether or not the Federal action is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. Regulations at 50 CFR 402.1 guide the section 7 consultation process. If jeopardy or adverse modification is found, NOAA Fisheries will suggest those reasonable and prudent alternatives that can be taken by the Federal agency or applicant in implementing the agency action. Reasonable and prudent alternatives refer to alternative actions identified during formal consultation that can be implemented in a manner consistent with the intended purpose of the action, that can be implemented consistent with the scope of the Federal agency's legal authority and jurisdiction, that are economically and technologically feasible, and that NOAA Fisheries believes would avoid the likelihood of jeopardizing the continued existence of listed species or resulting in the destruction or adverse modification of critical habitat. Reasonable and prudent alternatives can vary from slight project

modifications to extensive redesign or relocation of the project. Costs associated with implementing a reasonable and prudent alternative are similarly variable.

In formulating its biological opinion and any reasonable and prudent alternatives, NOAA Fisheries must use the best scientific and commercial data available and must give appropriate consideration to any beneficial actions taken by the Federal agency or applicant, including any actions taken prior to the initiation of consultation. In addition, NOAA Fisheries must utilize the expertise of the Federal agency and any applicant in identifying reasonable and prudent alternatives.

A Federal agency and an applicant may elect to implement a reasonable and prudent alternative associated with a biological opinion that has found jeopardy or adverse modification of critical habitat. An agency or applicant could alternatively choose to seek an exemption from the requirements of the ESA or proceed without implementing the reasonable and prudent alternative. However, unless an exemption was obtained, the Federal agency or applicant would be at risk of violating section 7(a)(2) of the ESA if it chose to proceed without implementing the reasonable and prudent alternatives.

Description of Compliance Costs Associated with the Proposed Rule

There are two primary types of compliance costs that regulated small entities may incur upon designation of critical habitat: 1) administrative costs incurred from section 7 consultation (formal or informal); and 2) costs incurred from section 7 consultation associated with project design or operation modification and project delays.[5] A summary of the costs associated with the proposed critical habitat designation is provided in Table 6 to indicate how the proposed rule may affect some of the various sectors and to aid public comment.

Table 6. Categories of Potential Compliance Costs Associated with the Proposed Rule

Categories of Potential Costs	Examples
Administrative costs associated with section 7 consultations: ▪ new consultations ▪ reinitiated consultations ▪ extended consultations	The value of time spent in conducting section 7 consultations (e.g., costs of phone calls, letter writing, meetings, travel time) and, in some cases, the costs of compiling biological, technical, and legal information and/or preparing a biological assessment.
Costs of modifications to projects, activities, and land uses.	Opportunity costs associated with seasonal project changes, relocation or redesign of project activities, project delays and/or cessation of certain activities.

The administrative costs of participating in consultation include the cost of applicants' time spent attending meetings, making phone calls, and preparing letters. In addition, applicants may spend time reviewing and commenting on the biological opinion before its promulgation (if a "jeopardy biological opinion" is to be issued). The duration and complexity of these interactions depends on a number of variables, including the type of consultation, the species, the activity of concern, the region where critical habitat has been proposed, and the involved parties. In some cases, applicants may also incur the costs of developing, under the direction of NOAA Fisheries, a biological assessment. Biological assessments are prepared to evaluate the potential effects of a proposed project on listed species or designated critical habitat.

[5] Compliance costs are those expenses borne by entities as they change their behavior to come into compliance with regulations.

The section 7 consultation process may also involve some modifications to a proposed or existing project. Projects may be modified in response to voluntary conservation measures suggested by NOAA Fisheries and agreed to by the applicant during the informal consultation process in order to avoid or minimize impact to a species and/or its habitat, thereby removing the need for formal consultation. Alternatively, formal consultations may involve modifications that are included in the project description as avoidance and minimization measures or included in the biological opinion on the project as reasonable and prudent measures. Of the activities and projects that are potentially affected by section 7 consultations, many are expected to involve no project modifications or very minor ones.

Applicants may also incur project delay costs associated with the consultation process. Regardless of funding (i.e., private or public), projects and activities are generally undertaken only when the benefits exceed the costs, given an expected project schedule. If costs increase, benefits decrease, or the schedule is delayed, a project or activity may no longer have positive benefits, or it may be less attractive to the party funding the project. However, the magnitude of such delays is unclear; the formal consultation process may add significantly to time lags before project implementation, or the action agency and the individual entity initiating the activity may be able to conduct a section 7 consultation simultaneously with other necessary permitting processes, thus leading to no additional delays.

To further assist small entities in understanding the nature of the impact of the proposed rule on their activities, the following discussion identifies typical project modifications that may be requested in consultations involving the listed Pacific salmon and steelhead ESUs:

Hydroelectric Power Generation. Small hydroelectric producers could be affected by project modification costs at the time of facility re-licensing. Alterations of operations affecting timing, amount and duration of water released could be costly in terms of lost generation capacity and foregone revenue over the life of a 30 to 50 year license. In addition, facilities may incur fish passage, habitat protection or restoration, and biological study costs.

Water Supply and Irrigation Systems. Section 7 consultation can add a cost burden to water supply activities by modifying infrastructure development projects and governing the operation of water projects (e.g., amount of water diverted).

Forestry and Logging. Project modifications may include yarding system changes to protect soils and reduce sediment loads in streams; repairing and replacing culverts that block upstream passage to fish; and road maintenance and repair to reduce soil erosion and sediment runoff. However, most costs related to roadwork, culvert upgrades and changes in logging and yarding methods will be passed on to the USFS through lower stumpage prices. Expanding the buffers along streamside corridors would remove land from timber production, thereby reducing the flow of raw material into the forest products industry.

Beef Cattle Ranching and Farming. The major cost components come from the areas of monitoring and elimination of conflicts (e.g., fencing and providing off-stream water). Date restrictions or the enforcement of stubble height restrictions can lead to an animal unit month (AUM) reduction on a particular allotment.[6] As a result of such reductions, ranchers will generally move the cattle to a different allotment or private lands. If they move the cattle to private lands they may have to pay a higher grazing fee, reflecting the different responsibilities the rancher has on public land for monitoring livestock, fence repairs and moving livestock versus private rented land, for which these responsibilities are often taken over by the land owner. Thus, while costs may be shifted, this analysis does not predict significant additional costs to

[6] Date restrictions refer to conditions specifying when activities should or should not be undertaken.

grazing permittees. In addition, when date restrictions are imposed, the USFS often can expand other allotments or increase AUMs on the restricted parcel to lessen any impact on the permittee. In cases where modifications in on-off dates and stocking levels result in reductions in total leased AUMs by a rancher, the total asset value of a permittee's privately held land may be impacted. Agricultural lending institutions often consider the number of historically leased Federal and state AUMs associated with a private ranching operation in determining the ranch's market value. Significant reductions in Federally-permitted AUMs could impact this market value. Reductions in total AUMs tend to be small and marginal in nature, and are often offset with available Federal, state, or private grazing elsewhere. The potential for this type of impact exists, but is not estimated due to the likely small magnitude and uncertain nature of the possible impact.

Highway, Street, and Bridge Construction. The typical project modification for bridge construction, maintenance, and removal projects in rivers proposed as critical habitat is date restrictions on in-stream work to protect spawning or migrating fish. Date restrictions have the potential to increase costs, but will not do so in every case. Larger projects are more likely to have date restriction costs. The imposition of date restrictions forces contractors to plan carefully and schedule the construction sequence with diligence. A large project coupled with a small window or unforeseen difficulties can lead to contractors being unable to finish their in-stream work during the allowed period. This is more likely with large projects than small projects. Most of the costs associated with project modification compliance will be borne by the Federal government either directly or through its funding of State Department of Transportation projects.

Electric Services/Natural Gas Distribution. Common project modifications include restrictions on the duration and extent of in-stream work, replacement/restoration of habitat, on-site monitoring, and efforts to minimize take.

Construction Sand and Gravel Mining. Consultations on mining activities conducted within the riparian areas of this designation could lead to watershed assessment requirements, a reduction in the length of the mining season, buffer strips, restrictions as to type of equipment allowed, timing of equipment use and additional requirements for stream crossings.

Utility Line Construction/Marinas/Other Heavy and Civil Engineering and Construction. Section 7 implementation on in-stream activities may impact the entities conducting the activities. Economic impacts result from direct project costs associated with restrictions on the duration and extent of in-water work, erosion and sediment control measures, heavy equipment restrictions, and efforts to minimize take.

Land Sub-division. The designation of critical habitat is anticipated to have a negligible impact on regional market supply for residential, commercial, or industrial land; therefore, the primary impacts will be felt by individual property owners. Typical project modifications associated with stormwater outfall projects include implementing state recommended stormwater plans, activities to reduce stormwater volume and/or pollutants, minimizing hardscape of the outfall structure, and vegetation replacement.

NPDES-Permitted Activities (Fishing, Hunting, Trapping; Food Manufacturing; Sewage Treatment Facilities; Paper and Pulp Mills; Wood Product Manufacturing). Costs related to NPDES-permitted activities include impacts resulting from newly developed water quality standards criteria related to temperature. EPA and NOAA Fisheries recently authored guidance to states and Tribes on the development of temperature criteria deemed protective of salmonids. Impacts of section 7 implementation resulting from NOAA's consultation on the temperature criteria will vary depending on a facility's compliance with existing temperature standards.

Estimate of the Economic Impacts on Small Entities

For the purpose of this analysis, costs to small entities include those costs borne directly by small entities and not those costs borne directly by Federal agencies and passed on to small entities (e.g., higher electricity prices charged by Federal power marketing agencies). Costs borne directly by small entities include the administrative costs of participating in section 7 consultation and the costs resulting from modifying project activities to comply with section 7.

To be conservative (i.e., more likely to overstate impacts than understate them), this analysis assumes that for most activities, private third parties will bear all of the total section 7 costs. However, for some activities third party involvement is known to be minimal (i.e., only the action agency and/or NOAA Fisheries are expected to incur costs). In particular, this analysis anticipates that Federal agencies will bear 90 percent of the total section 7 costs associated with forestry and logging activities on Federal lands and with road and bridge construction and maintenance. The remaining ten percent of costs are expected to be borne by private entities. Most of the project modification costs for forestry and logging activities on Federal lands will likely either be borne directly by or passed onto the Federal government. Additional monitoring costs and the cost of some of the additional road work will be borne directly by the USFS, while costs related to remaining road work and changes in logging and yarding methods will be passed on to the USFS through lower stumpage prices. With respect to FHWA-related consultations for road and bridge construction/maintenance, this analysis anticipates that the majority of costs associated with project modification compliance will be borne by the Federal government either directly or through their funding of State Department of Transportation projects. Impacts on indirectly regulated entities (e.g., road construction companies contracted by State DOTs) are not considered in this analysis.

This analysis does not distinguish between economic impacts caused by the listing of the Pacific salmon and steelhead ESUs and those additional costs and benefits created solely by the proposed critical habitat designation. Section 7 consultations are required upon the listing of a species to ensure federal actions will not jeopardize the continued existence of the species or destroy or adversely modify its critical habitat. Section 7 consultations on habitat-modifying actions may lead to project modifications because they will result in jeopardy, or adverse modification of critical habitat, or both. Although NOAA Fisheries reviewed its extensive consultation record, it was unable to distinguish incremental project modifications that were required because of the critical habitat designation, over and above the application of the jeopardy standard. In 2001, the U.S. Court of Appeals for the Tenth Circuit instructed the U.S. Fish and Wildlife Service to conduct a full analysis of all of the economic impacts of critical habitat designation, regardless of whether those impacts are attributable co-extensively to other causes.[7] Mindful of the Tenth Circuit's instruction regarding the statutory requirement to consider the economic impact of designation, NOAA Fisheries examined its extensive consultation record. The agency could not discern a distinction in the impacts of applying the jeopardy provision versus the adverse modification provision in occupied habitat. Given the inability to detect a measurable difference between the impacts of applying these two provisions, the only reasonable alternative seemed to be to follow the recommendation of the Tenth Circuit to measure the full impact of the adverse modification requirement, regardless of whether it is coextensive with the jeopardy requirement.

The greatest share of the costs associated with the consultation process stem from project modifications and mitigation (as opposed to the consultation itself). Indeed, the administrative costs associated with the consultation itself are relatively minor, with third party costs estimated to range from $1,200 to $4,100 per consultation. The cost of developing a biological assessment

[7] *New Mexico Cattlegrowers' Association v. U.S. Fish and Wildlife Service*, 248 F.3d 1277 (10th Cir. 2001)

is estimated to be between $3,700 and $67,500. Therefore, small entities are unlikely to be significantly affected by consultations that do not involve costly project modifications.

Unavailable or inadequate data leaves some uncertainty surrounding the nature and cost of project modifications that may be requested by NOAA Fisheries in consultations on Federally authorized, permitted, or funded activities. The problem is complicated by differences among entities even in the same sector as to the nature and size of their current operations, contiguity to waterways, etc. Moreover, the ability of different entities to adapt to the incremental regulatory burden by changing the manner in which they operate, modifying their mix of products, or passing on the additional costs in the form of price increases or user fees is unknown.

Using spatial data, the analysis identified projects and activities that either had or could have a Federal nexus on lands being considered for critical habitat. The analysis used these data to project the volume of projects and activities that could reasonably be foreseen to be covered by a section 7 consultation once critical habitat was designated. Estimates of the costs per project for each industry sector were based on a review of the historical consultation record (Appendix B: Table 38). The costs were annualized over a 5- to 30-year time horizon, depending on the expected life of the project. It is likely that businesses that do not meet SBA's small business size standards will have larger projects and, therefore, greater costs per project. However, in order to present a conservative (i.e., high end) estimate of per-project costs, this analysis assumes that these costs are as high for small businesses as they are for larger ones.

An estimate of the number of projects that would be affected by section 7 consultation was only available for all businesses, both large and small. It is likely that businesses that do not meet SBA's small business size standards will have a greater number of affected projects per entity. However, due to a lack of information regarding the number of affected projects involving small entities, this analysis conservatively assumes that the ratio of small entity projects to all projects is equal to the ratio of small entities to all entities.[8]

An estimate of the annual economic impacts on small entities in each ESU by industry sector is provided in Appendix B: Table 39-Table 50. The tables present the expected total economic cost of actions taken under section 7 of the ESA associated with protection of the 13 Pacific salmon and steelhead ESUs and their proposed critical habitat, including those costs attributable co-extensively to the listing of the 13 Pacific salmon and steelhead ESUs as endangered or threatened. Both overall compliance costs of section 7 consultation and per-entity compliance costs are presented. These tables likely establish an upper-bound to the compliance costs due to the fact that some of the costs associated with section 7 consultation are expected to be borne directly by or passed onto the Federal government. Only the estimated annualized section 7 costs incurred by regulated small entities in the Forestry and Logging and Highway, Street, and Bridge Construction Sectors were adjusted downward to reflect this likelihood. The analysis assumes that 90 percent of the estimated annualized section 7 costs for these sectors will be born by the Federal action agencies; with private entities incurring the remaining ten percent.

Estimates of the co-extensive costs of section 7 consultation to small entities in each ESU are summarized in Table 7. An estimate of the total co-extensive costs across all ESUs is also provided; this number accounts for the overlap between ESUs for some watersheds.

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[8] This analysis estimated the proportion of regulated entities that are small entities to be greater than 70 percent in all of the industry sectors considered, with the exception of the Natural Gas Distribution Sector (in which small entities represent 31 percent of the total). The proportion of regulated entities that are small entities in the Hydroelectric Power Generation and Electric Services Sectors is unknown.

Table 7. Estimated Annual Economic Impacts on Small Entities by ESU and Industry Sector

ESU	Total	Annual Impact on Small Entities										
		Hydro-electric Power Generation[1]	Water Supply and Irrigation Systems	Forestry and Logging	Beef Cattle Ranching and Farming	Highway, Street, and Bridge Construc-tion	Electric Services/ Natural Gas Distribution[1]	Construc-tion Sand and Gravel Mining	Utility Line Construc-tion	Other Heavy and Civil Engineering and Construction	Land Sub-division	NPDES-Permitted Activities
Columbia River Chum	$10,621,932	$1,579,683	$428,005	$185,776	$101	$77,887	$204,281	$275,235	$4,821,501	$2,769,271	$15,143	$265,048
Hood Canal Summer-run Chum	$5,309,040	$31,808	$387,736	$118,399	$0	$3,848	$74,701	$117,030	$3,087,221	$1,409,532	$1,814	$76,952
Lower Columbia River Chinook	$17,145,634	$8,110,504	$1,150,844	$768,187	$354	$103,586	$250,598	$704,718	$2,040,477	$3,491,233	$134,086	$391,046
Lower Columbia River Steelhead	$16,773,133	$8,125,012	$1,124,432	$852,342	$270	$90,048	$258,226	$497,069	$1,850,174	$3,478,425	$129,839	$367,296
Middle Columbia River Steelhead	$14,987,486	$2,040,816	$2,553,030	$1,676,415	$708	$76,229	$487,775	$460,208	$3,089,185	$4,167,708	$17,227	$418,185
Oregon Coast Coho	$5,072,840	$63,615	$1,249,653	$1,060,523	$648	$32,205	$188,002	$1,412,887	$203,017	$499,200	$80,034	$283,056
Ozette Lake Sockeye	$2,375	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,375
Puget Sound Chinook	$60,452,494	$18,591,892	$2,426,453	$842,505	$310	$91,829	$1,385,849	$171,890	$27,699,587	$8,556,982	$36,985	$648,213
Snake River Basin Steelhead	$13,489,430	$381,690	$1,358,738	$2,189,507	$3,128	$33,833	$470,357	$127,833	$4,904,820	$3,702,785	$36,680	$280,059
Upper Columbia River Spring-run Chinook	$6,669,609	$63,615	$108,508	$643,807	$301	$3,034	$291,967	$123,531	$3,767,647	$1,444,309	$0	$222,890
Upper Columbia River Steelhead	$9,381,065	$63,615	$1,505,426	$901,112	$606	$6,229	$318,463	$420,005	$4,283,896	$1,644,084	$880	$236,750
Upper Willamette River Chinook	$13,858,311	$7,375,591	$598,081	$1,021,829	$543	$18,498	$448,615	$229,128	$78,591	$3,392,459	$99,983	$594,994
Upper Willamette Steelhead	$5,244,233	$400,564	$409,335	$150,355	$574	$9,762	$329,947	$156,252	$109,808	$3,120,952	$67,872	$488,813
All ESUs[2]	$226,295,676	$35,843,607	$11,800,583	$90,168,364	$6,535	$3,980,208	$3,874,613	$3,680,000	$48,990,663	$24,253,366	$418,687	$3,279,051

Note: Cost estimates include all section 7 costs, including those co-extensive with the listing and designation of critical habitat for the 13 Pacific salmon and steelhead ESUs. Costs are presented on an annualized basis. These estimates likely provide an upper limit to the compliance costs due to the fact that some of the costs associated with section 7 consultation are expected to be borne directly by or passed onto the Federal government (only the estimated annualized section 7 costs incurred by regulated small entities in the Forestry and Logging and Highway, Street, and Bridge Construction Sectors were adjusted downward to reflect this likelihood).

[1] All entities in the Hydroelectric Power Generation and Electric Services Sectors are assumed to be small entities. Consequently, the compliance costs for small entities in these sectors represent an upper bound estimate. The number of small entities in the hydroelectric power generation and electrical services industries is unknown because of the unavailability of data related to small business thresholds. For both of these industry sectors the SBA defines a firm as "small" if, including its affiliates, it is primarily engaged in the generation, transmission, and/or distribution of electric energy for sale, and its total electric output for the preceding fiscal year did not exceed 4 million megawatt hours. It was not possible to locate a source that provides this information for all regulated entities within these sectors.

[2] Many of the ESUs overlap, thus the row labeled "All ESUs" estimates unique effects and is not simply the sums of all ESUs.

Estimate of the Regulatory Burden and Distributional Effects

Compliance costs may affect the economic viability of small entities or their ability to provide services. The severity of the economic impact depends on the magnitude of the compliance costs associated with the rule and the economic and financial characteristics of the affected firms and industries. Industries and firms that are relatively profitable will be better able to absorb new compliance costs without experiencing financial distress.

This analysis assessed whether compliance costs of section 7 consultation might unduly burden the small entities within a particular group or industry sector. To determine if the compliance costs would impose a substantial cost burden the analysis examined these costs as a percentage of profits.

Information on revenue, profit or other measures of economic sustainability is unavailable for the small entities to which the proposed rule will apply. However, the profitability of businesses in each industry sector was approximated using data from Risk Management Association's (RMA) Annual Statement Studies and IMPLAN, an economic input-output software package developed by MIG, Inc. The profits of small entities in each sector were identified in these data sources using SBA size standards. A more detailed description of the methodology used to determine the profitability of small entities is provided in Appendix C.

Estimates of the profits of a typical (i.e., representative or average) small entity in each industry sector are provided in Table 8. Per-entity compliance costs were then expressed as a percentage of the profitability of a typical business to assess the relative impact of regulatory costs on business and industry viability (Table 9). Compliance costs as a proportion of profits exceeded ten percent for the average directly regulated small entity in the Utility Line Construction Sector in the Hood Canal Summer-run Chum and Upper Columbia River Spring-run Chinook Salmon ESUs; and for the average directly regulated small entity in the Other Heavy and Civil Engineering and Construction Sector in the Snake River Basin Steelhead ESU. The use of average compliance costs and profitability may underestimate or overestimate the impact of the proposed rule on some small businesses.

Table 8. Estimated Profitability of a Typical Small Entity by Industry Sector

Typical Profitability	Hydroelectric Power Generation[1]	Water Supply and Irrigation Systems	Forestry and Logging	Beef Cattle Ranching and Farming	Highway, Street, and Bridge Construction	Electric Services/Natural Gas Distribution[1]	Construction Sand and Gravel Mining	Utility Line Construction	Other Heavy and Civil Engineering and Construction	Land Sub-division	NPDES-Permitted Activities
Profit margin	7.9	14.8	3.6	7.9	8.3	6.1	9.7	4.5	4.7	8.9	5.7
Small entity sales	200,000,000	6,000,000	6,000,000	750,000	28,500,000	206,712,877	62,963,851	24,560,351	17,000,000	6,000,000	23,748,006
Average profits per small entity	15,800,000	888,000	214,712	59,250	2,361,621	12,698,290	6,117,199	1,108,917	799,000	534,000	1,355,572

[1] All entities in the Hydroelectric Power Generation and Electric Services Sectors are assumed to be small entities. Consequently, the profits of an average small entity in these sectors represent an upper bound estimate. The number of small entities in the hydroelectric power generation and electrical services industries is unknown because of the unavailability of data related to small business thresholds. For both of these industry sectors the SBA defines a firm as "small" if, including its affiliates, it is primarily engaged in the generation, transmission, and/or distribution of electric energy for sale, and its total electric output for the preceding fiscal year did not exceed 4 million megawatt hours. It was not possible to locate a source that provides this information for all regulated entities within these sectors.

Table 9. Economic Impacts as a Percentage of the Profitability of a Typical Small Entity by ESU and Industry Sector

ESU	Hydroelectric Power Generation[1]	Water Supply and Irrigation Systems	Forestry and Logging	Beef Cattle Ranching and Farming	Highway, Street, and Bridge Construction	Electric Services/Natural Gas Distribution[1]	Construction Sand and Gravel Mining	Utility Line Construction	Other Heavy and Civil Engineering and Construction	Land Sub-division	NPDES-Permitted Activities
	Percent of Profits										
Columbia River Chum	0.7	6.6	0.5	0.0	0.0	0.1	0.7	6.8	4.3	0.0	0.1
Hood Canal Summer-run Chum	0.0	5.3	1.0	0.0	0.0	0.1	2.8	12.0	7.1	0.0	0.1
Lower Columbia River Chinook	2.4	2.9	1.6	0.0	0.0	0.1	1.0	1.5	3.7	0.1	0.1
Lower Columbia River Steelhead	1.4	3.0	2.1	0.0	0.0	0.0	1.1	1.2	3.8	0.1	0.1
Middle Columbia River Steelhead	0.4	4.6	5.9	0.0	0.0	0.1	1.2	3.5	7.3	0.0	0.1
Oregon Coast Coho	0.0	4.8	1.8	0.0	0.0	0.1	8.4	0.3	1.2	0.3	0.1
Ozette Lake Sockeye	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1
Puget Sound Chinook	3.5	3.9	2.2	0.0	0.0	0.2	0.2	9.4	4.6	0.0	0.0
Snake River Basin Steelhead	0.2	4.4	7.0	0.0	0.0	0.1	0.6	8.8	10.2	0.2	0.1
Upper Columbia River Spring-run Chinook	0.0	0.4	7.8	0.0	0.0	0.1	1.0	10.4	6.6	0.0	0.2
Upper Columbia River Steelhead	0.0	4.1	7.5	0.0	0.0	0.1	3.5	9.3	6.9	0.0	0.1
Upper Willamette River Chinook	1.5	1.2	1.9	0.0	0.0	0.1	0.2	0.0	3.1	0.1	0.1
Upper Willamette Steelhead	0.1	0.8	0.4	0.0	0.0	0.1	0.2	0.1	3.2	0.0	0.1
All ESUs[2]	1.6	4.6	3.3	0.0	0.0	0.1	1.1	5.7	4.7	0.1	0.1

Note: Cost estimates include all section 7 costs, including those co-extensive with the listing and designation of critical habitat for the 13 Pacific salmon and steelhead ESUs. Costs are presented on an annualized basis. These estimates likely provide an upper limit to the compliance costs due to the fact that some of the costs associated with section 7 consultation are expected to be borne directly by or passed onto the Federal government (only the estimated annualized section 7 costs incurred by regulated small entities in the Forestry and Logging and Highway, Street, and Bridge Construction Sectors were adjusted downward to reflect this likelihood).

[1] All entities in the Hydroelectric Power Generation and Electric Services Sectors are assumed to be small entities. Consequently, the compliance costs as a percentage of the profitability of a typical small entity in these sectors represent an upper bound estimate. The number of small entities in the hydroelectric power generation and electrical services industries is unknown because of the unavailability of data related to small business thresholds. For both of these industry sectors the SBA defines a firm as "small" if, including its affiliates, it is primarily engaged in the generation, transmission, and/or distribution of electric energy for sale, and its total electric output for the preceding fiscal year did not exceed 4 million megawatt hours. It was not possible to locate a source that provides this information for all regulated entities within these sectors.

[2] Many of the ESUs overlap, thus the row labeled "All ESUs" estimates unique effects and is not simply the sums of all ESUs.

Section 7 consultation costs may impose a disproportionate economic hardship on small entities in certain industry sectors. These costs are unlikely to be directly proportional to the size of the regulated entity. Consequently, it is probable that regulatory costs will represent a higher percentage of profits of small entities than of larger entities. This disproportionality could place small entities in certain industry sectors at a significant competitive disadvantage with larger businesses.

Description of Potential Benefits of the Proposed Rule to Small Entities

Designation of critical habitat may also provide economic benefits to some regulated small entities. However, quantification of potential beneficial effects is not possible at this time due to a lack of data.

VII. Identification of Relevant Federal Rules that may Duplicate, Overlap or Conflict with the Proposed Rule

An IRFA must identify any duplicative, overlapping, and conflicting Federal rules. Rules are duplicative or overlapping if they are based on the same or similar reasons for the regulation, the same or similar regulatory goals, and if they regulate the same classes of industry. Rules are conflicting when they impose two conflicting regulatory requirements on the same classes of industry.

Other rules promulgated under the ESA cover the same subject matter and affect the same classes of small entities. As noted previously, each Federal agency is already required to consult with NOAA Fisheries under section 7 of the ESA to insure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any Pacific salmon and steelhead ESUs. The proposed rule also overlaps with 4(d) rules that impose "take" prohibitions on activities generally, but do not apply those prohibitions to activities found to be adequately protective of the threatened salmonids or otherwise contributing to conservation of the ESUs. The 4(d) rules do not require any specific actions by non-Federal agencies, businesses, organizations, or private individuals, but they do prohibit any entity from unauthorized "take" of the listed species. In addition, in 1995, the U.S. Supreme Court ruled that the Secretary did not exceed his authority under the ESA when he promulgated a regulation that defines the statute's prohibition on takings to include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns.[9]

Generally, if a consultation is triggered for any listed species, the consultation process will also take into account all other listed species known or thought to occupy areas on or near the project lands. As such, management efforts for other listed species may substantially overlap with those for a particular listed Pacific salmon and steelhead ESU and benefit both species. For example, the presence of bull trout and cutthroat trout provides for the protection of areas that could contribute to the recovery of some Pacific salmon and steelhead ESUs and improve riparian habitat and water quality throughout their proposed designations.

Apart from the ESA, many other Federal regulations and statutes contribute to the conservation and management of the listed Pacific salmon and steelhead ESUs. Regulations and statutes that provide significant protection to the Pacific salmon and steelhead ESUs and their habitat and the Federal entities that administer them are summarized in Table 10. Table 11 lists a number of

9 *Babbitt v. Sweet Home Chapter of Communities for a Great Oregon*, No. 94- 859, 1995 U.S. LEXIS 4463, 1995 WL 382088 (S.Ct., June 29, 1995).

additional regulations and statutes that may apply to activities that affect natural resources within the proposed designation; however, they are unlikely to provide significant protection to the listed Pacific salmon and steelhead ESUs.

The combined requirements of these overlapping rules may impose significant costs on some small entities.

Table 10. Federal Regulations and Statutes Other Than the Endangered Species Act That May Provide Significant Protection to Pacific Salmon and Steelhead ESUs and Habitat

Overview of Regulation/Statute	Impact on Land Use Activities Within Listed Pacific Salmon/Steelhead ESU Critical Habitat
Clean Water Act (1987) - The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States. It gives EPA the authority to implement pollution control programs such as setting wastewater standards for industry. The CWA also continued requirements to set water quality standards for all contaminants in surface waters. 33 U.S.C. 1251 et seq.	According to the CWA, it is unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit is obtained under its provisions; this requires issuance of Section 404 permits from the USACE. As part of pollution prevention activities, the USACE may limit activities in waterways through its 404 permitting process, independent of salmon concerns. These reductions in pollution may benefit salmon species. Under the National Pollutant Discharge Elimination System program, EPA sets pollutant-specific limits on the point source discharges for major industries and provides permits to individual point sources that apply to these limits. Under the water quality standards program, EPA, in collaboration with States, establishes water quality criteria to regulate ambient concentration of pollutants in surface waters. Under section 401 of the CWA, all applicants for a Federal license or permit to conduct activity that may result in discharge to navigable waters are required to submit a State certification to the licensing or permitting agency.
National Forest Management Act (1976) - This Act requires assessment of forest lands, development of a management program based on multiple-use, sustained-yield principles, and implementation of a resource management plan for each unit of the National Forest System. 16 USC §§ 1600-1614	This Act may provide protection to salmon/steelhead within National Forests, primarily through its authorization of the Northwest Forest Plan (NWFP) and PACFISH (where it continues to apply). NWFP and PACFISH provide numerous protections for salmon species related to Federal lands management activities (see below).
Northwest Forest Plan (1994) - The Northwest Forest Plan defines standards and guidelines for forest use throughout the 24 million acres of Federal lands in its planning area (the range of the Northern spotted owl).	Specifically, the NWFP provides standards and guidelines for management of timber, roads, grazing, recreation, minerals, fire/fuels management, fish and wildlife management, general land management, riparian area management, watershed and habitat restoration, and research activities on USFS and BLM lands. To accomplish its goals, the NWFP defines seven land allocation categories, including "matrix lands," areas where the majority of timber is to be taken, and Riparian Reserves and Key Watersheds, where distances from rivers are set within which many activities are restricted. The Aquatic Conservation Strategy component of the plan specifically provides for fishery habitat, protection, and restoration.

Overview of Regulation/Statute	Impact on Land Use Activities Within Listed Pacific Salmon/Steelhead ESU Critical Habitat
PACFISH (Interim strategies for managing anadromous fish-producing watersheds) (1995) – For anadromous fish-producing watersheds on Federal lands in eastern Oregon, Washington, Idaho and Northern California that are not covered by the NWFP, USFS and BLM adopted a management strategy to arrest the degradation and begin the restoration of anadromous fish protection. This strategy was intended to be in place only for 18-months, beginning in February of 1995, but continues to be implemented.	Like the NWFP, PACFISH provides guidelines for timber, roads, grazing, recreation, minerals, fire/fuels management, lands, riparian area, watershed and habitat restoration, and fisheries and wildlife restoration. Standards and guidelines under PACFISH are nearly identical to those in the NWFP
Federal Power Act (1920, as amended) – The purpose of the FPA was to establish a regulatory agency to regulate non-Federal hydropower generation. The resulting Federal Energy Regulatory Commission (FERC), an independent Federal agency governing approximately 2,500 licenses for non-Federal hydropower facilities, has responsibility for national energy regulatory issues. 16 U.S.C. § 800	This Act may provide protection to salmon from hydropower activities. Section 10(j) of the Federal Power Act (FPA) was promulgated to ensure that FERC considers both power and non-power resources during the licensing process. More specifically, section 18 of the FPA states that FERC shall require the construction, operation, and maintenance by a licensee at its own expense of a fishway if prescribed by the Secretaries of Interior (delegated to the Service) and Commerce (NOAA Fisheries).
Northwest Electric Power Planning and Conservation Act (Northwest Power Act) (1920, as amended) – This regulation provides for the protection, mitigation and enhancement of fish and wildlife, including related spawning grounds and habitat, of the Columbia River and its tributaries. 16 U.S.C. §§ 839-839h	Hydropower activities in the Northwest Region are impacted through the Northwest Power Act's Fish and Wildlife Program directing the Pacific Northwest Electric Power and Conservation Council to adopt programs to protect, mitigate, and enhance fish and wildlife, including related spawning grounds and habitat, on the Columbia River system. This regulation has encouraged use of the Bonneville Power Administration's resources to mitigate and enhance fish and wildlife and habitat affected by the development and operation of hydroelectric projects in the Columbia River and its tributaries.
Fish and Wildlife Coordination Act (1934, as amended) - This regulation provides that, whenever the waters or channels of a body of water are modified by a department or agency of the U.S., the department or agency first shall consult with the U.S. Fish and Wildlife Service and with the head of the agency exercising administration over the wildlife resources of the State where modification will occur with a view to the conservation of wildlife resources. 16 U.S.C.§§ 661-666	The purpose of this Act is to ensure that fish and wildlife resources are equally considered with other resources during the planning of water resources development projects by authorizing NOAA Fisheries to provide assistance to Federal and State agencies in protecting game species and studying the effects of pollution on wildlife. This Act may offer protection to salmon/steelhead and habitat by requiring consultation concerning the species with NOAA Fisheries for all in-stream activities with a Federal nexus
Rivers and Harbors Act (1938) - The RHA places Federal investigations and improvements of rivers, harbors and other waterways under the jurisdiction of the U.S. Army Corps of Engineers (ACOE) and requires that all investigations and improvements include due regard for wildlife conservation. 33 USC §§ 401 et seq.	This Act may provide protection to salmon/steelhead from in-stream construction activities. Under sections 9 and 10 of the RHA, the ACOE is authorized to regulate the construction of any structure or work within navigable water. This includes, for example, bridges and docks.

Overview of Regulation/Statute	Impact on Land Use Activities Within Listed Pacific Salmon/Steelhead ESU Critical Habitat
National Environmental Policy Act (1969) - NEPA requires that all Federal agencies conduct a detailed environmental impact statement in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment. 42 USC §§ 4321-4345	The NEPA process may provide protection to salmon/steelhead for all activities that have Federal involvement, if alternatives are considered and selected that are less harmful to salmon and its habitat than others.
Roadless Area Protection Act (2002) – RAPA protects specific roadless areas located in National Forests from logging and road building. HR 4865	RAPA may offer protections to salmon/steelhead by minimizing construction and deforestation in National Forests. These protections, if they continue in the future, are likely to reduce the number of roadbuilding projects in these areas.
Wilderness Act (1964) – The Wilderness Act established the National Wilderness Preservation System. With a few exceptions, no commercial enterprise or permanent road is allowed within a wilderness area. Temporary roads, motor vehicles, motorized equipment, landing of aircraft, structures and installations are only allowed for administration of the area. Measures may be taken to control fire, insects and disease. Prospecting for mineral or other resources, if carried on in a manner compatible with the preservation of wilderness, is allowed. 16 USC §§ 1131-1136	The Wilderness Act may offer protections to salmon/steelhead by limiting land disturbing activities in Wilderness Areas in National Forests. Human activity in wilderness areas is likely to be greatly reduced when compared to non-wilderness areas, which is likely to benefit salmon.
The Sikes Act Improvements Act (1997) - SAIA requires military installations to prepare and implement an Integrated Natural Resources Management Plan (INRMP). The purpose of the INRMP is to provide for: the conservation and rehabilitation of natural resources on military installations; the sustainable multipurpose use of the resources, which shall include hunting, fishing, trapping, and nonconsumptive uses; and subject to safety requirements and military security, public access to military installations to facilitate the use of the resources. 16 USC §670	INRMPs developed in accordance with SAIA may provide protection to salmon/steelhead and habitat on military lands.
Long-Term Management Strategy (LTMS) For the Placement of Dredged Material in the San Francisco Bay Region. The LTMS is a multi-agency effort with ACOE, EPA, NOAA Fisheries and others to maintain in an economically and environmentally sound manner those channels necessary for navigation in SF Bay and Estuary and eliminate unnecessary dredging.	The LTMS considered three long-term strategies for channel maintenance, all of which attempt to reduce the amount of sediment disposed within the San Francisco Bay estuary. The LTMS also establishes dredging windows for salmon and other aquatic species. Limitations of sediment and dredging windows to accommodate salmon spawning benefit salmon.
Washington Department of Ecology Minimum Requirements for Stormwater Management	This guidance document's implementation is not required except in the case of municipal stormwater systems that require a NPDES permit. Implementation may also be required by local zoning laws or as other permit requirements.

Table 11. Other Federal Regulations and Statutes That may Contribute to the Protection of Pacific Salmon and Steelhead ESUs and Habitat

Fish and Wildlife Conservation Act (1980, as amended) – The FWCA encourages States to develop, revise and implement, in consultation with Federal, State, local and regional agencies, a plan for the conservation of fish and wildlife, particularly species indigenous to the state.
16 USC §§ 2901-2911
Magnuson-Stevens Fishery Conservation and Management Act (1976, as amended) – This regulation requires identification of essential fish habitat in fishery management plans and consideration of actions to ensure the conservation and enhancement of habitat.
16 USC §§ 1801-1882
Fisheries Restoration and Irrigation Mitigation Act (2000) - The FRIMA directs the Secretary of the Interior, in consultation with the heads of other appropriate agencies, to develop and implement projects to mitigate impacts to fisheries resulting from the construction and operation of water diversions by local government entities (including soil and water conservation districts) in the Pacific Ocean drainage area.
16 USC § 777
Water Resources Development Act (1986, as amended) - WRDA authorizes the construction or study of ACOE projects and outlines environmental assessment and mitigation requirements.
33 USC §§ 2201-2330
Anadromous Fish Conservation Act (1965) - The AFCA authorizes the Secretary of the Interior to enter into agreements with States and other non-Federal interests to conserve, develop and enhance the anadromous fish resources of the U.S.
16 USC §§ 757 et seq.
Wild and Scenic Rivers Act (2001) - WSRA authorizes the creation of the National Wilderness Preservation System and prohibits extractive activities on specific lands.
16 USC §§ 1271-1287
North American Wetland Conservation Act (1989) - NAWCA encourages partnerships among public agencies and other interests to protect, enhance, restore and manage an appropriate distribution and diversity of wetland ecosystems and other habitats for migratory birds and other fish and wildlife.
16 USC § 4401 et seq.
Federal Land Policy and Management Act (1976) – This Act requires the Bureau of Land Management to employ a land planning process that is based on multiple use and sustained yield principles
43 USC §§ 1701-1782
Executive Order 11988 and 11990 (1977) – These E.O.'s require, to the extent possible, prevention of long and short term adverse impacts associated with the occupancy and modification of floodplains and prevention of direct or indirect support of floodplain development wherever there is a practicable alternative.
Coastal Zone Management Act (1972) - CZMA establishes an extensive Federal grant program to encourage coastal States to develop and implement coastal zone management programs to provide for protection of natural resources, including wetlands, flood plains, estuaries, beaches, dunes, barrier islands, coral reefs, and fish and wildlife and their habitat.
16 USC §§ 1451 et seq.

While the proposed rule may overlap to some extent with the statutes listed above in terms of providing protection to salmon/steelhead and their habitat and may impose a significant financial burden on small entities in certain industry sectors, it will improve protection of the 13 Pacific salmon and steelhead ESUs by ensuring that any actions carried out, funded, or permitted by Federal agencies do not destroy or adversely modify the habitat. Moreover, NOAA Fisheries does not have discretion to decline to designate critical habitat unless it affirmatively finds that it would not be prudent to do so. Agency regulations state designation is not prudent if, "The species is threatened by taking or other human activity, and identification of critical habitat can be expected to increase the degree of such threat to the species, or . . . such designation of critical habitat would not be beneficial to the species."

NOAA Fisheries is unaware of any Federal rules that conflict with the proposed critical habitat designations of the 13 Pacific salmon and steelhead ESUs.

VIII. Description of Significant Alternatives to the Proposed Rule

An IRFA must consider all significant alternatives that accomplish the stated objectives of the applicable statues and minimize any significant economic impact of the proposed rule on small entities. "Significant alternatives" are those with potentially lesser impacts on small entities (versus large-scale entities) as a whole. The kinds of alternatives that are possible will vary based on the particular regulatory objective and the characteristics of the regulated industry. However, section 603(c) of the RFA gives agencies some alternatives that they must consider at a minimum:

1. Establishment of different compliance or reporting requirements for small entities or timetables that take into account the resources available to small entities.
2. Clarification, consolidation, or simplification of compliance and reporting requirements for small entities.
3. Use of performance rather than design standards.
4. Exemption for certain or all small entities from coverage of the rule, in whole or in part.

NOAA Fisheries considered and rejected the alternative of not designating critical habitat for the 13 Pacific salmon and steelhead ESUs because it did not meet the legal requirements of the Endangered Species Act.

NOAA Fisheries also considered and rejected an alternative in which all the potential critical habitat of the 13 Pacific salmon and steelhead ESUs is proposed for designation. Under this alternative no areas are excluded for economic reasons. Through the section 4(b)(2) process of weighing benefits of exclusion against benefits of designation, NOAA Fisheries determined that the proposed designation of critical habitat provided an appropriate balance of conservation and economic mitigation and that excluding the areas proposed for exclusion would not result in extinction of the species. The proposed critical habitat designation would reduce the adverse economic impacts on entities, including small entities. It is estimated that excluding areas from the proposed rule designating critical habitat could save small entities from zero to $18.4 million in compliance costs depending on the ESU (Table 12). The estimated total savings across all ESUs are over $28.6 million.

Table 12. A Comparison of the Proposed Critical Habitat Designation and Critical Habitat Designation with No Areas Excluded by ESU

ESU	Proposed Critical Habitat Designation		Critical Habitat Designation with No Areas Excluded		Difference Between Critical Habitat Designations	
	No. of Regulated Small Entities	Economic Impacts on Small Entities ($)	No. of Regulated Small Entities	Economic Impacts on Small Entities ($)	No. of Regulated Small Entities	Economic Impacts on Small Entities ($)
Columbia River Chum	897	10,621,932	902	10,737,799	5	115,867
Hood Canal Summer-run Chum	234	5,309,040	240	5,911,807	6	602,767
Lower Columbia River Chinook	1,449	17,145,634	2,415	24,220,415	966	7,074,781
Lower Columbia River Steelhead	1,568	16,773,133	2,110	22,295,796	542	5,522,663
Middle Columbia River Steelhead	1,144	14,987,486	1,177	16,224,293	33	1,236,807
Oregon Coast Coho	920	5,072,840	922	5,354,527	2	281,687
Ozette Lake Sockeye	0	2,375	0	2,375	0	0
Puget Sound Chinook	2,720	60,452,494	5,038	78,813,118	2,318	18,360,624
Snake River Basin Steelhead	810	13,489,430	843	13,768,900	33	279,470
Upper Columbia River Spring-run Chinook	420	6,669,609	510	7,440,914	90	771,305
Upper Columbia River Steelhead	532	9,381,065	641	14,160,136	109	4,779,071
Upper Willamette River Chinook	1,999	13,858,311	2,942	16,809,789	943	2,951,478
Upper Willamette Steelhead	1,753	5,244,233	2,681	8,006,074	928	2,761,841
All ESUs	8,432	132,513,966	12,873	161,165,746	4,441	28,651,780

Note: Many of the ESUs overlap, thus the row labeled "All ESUs" estimates unique effects and is not simply the sums of all ESUs

A third alternative that NOAA Fisheries examined and rejected considered as eligible for exclusion all habitat areas with a low or medium value. The section 4(b)(2) process determined that this alternative furthers the goal of reducing economic impacts; however, for some habitat areas the incremental economic gain from excluding that area is relatively small (Table 13). Moreover, this alternative is not sensitive to the fact that for most ESUs, eliminating all low and medium value habitat areas is likely to significantly impede conservation. Because it is doubtful that the benefits of exclusion outweigh the benefits of specifying these areas as part of the critical habitat, NOAA Fisheries rejected this alternative.

Table 13. A Comparison of the Proposed Critical Habitat Designation and Critical Habitat Designation with Low and Medium Value Areas Excluded by ESU

ESU	Proposed Critical Habitat Designation		Critical Habitat Designation with Low and Medium Value Areas Excluded		Difference Between Critical Habitat Designations	
	No. of Regulated Small Entities	Economic Impacts on Small Entities ($)	No. of Regulated Small Entities	Economic Impacts on Small Entities ($)	No. of Regulated Small Entities	Economic Impacts on Small Entities ($)
Columbia River Chum	897	10,621,932	897	10,611,134	0	10,798
Hood Canal Summer-run Chum	234	5,309,040	167	4,962,780	67	346,261
Lower Columbia River Chinook	1,449	17,145,634	1,401	16,622,845	48	522,789
Lower Columbia River Steelhead	1,568	16,773,133	1,504	16,481,549	63	291,583
Middle Columbia River Steelhead	1,144	14,987,486	1,095	14,884,414	49	103,073
Oregon Coast Coho	920	5,072,840	697	3,875,130	223	1,197,710
Ozette Lake Sockeye	0	2,375	0	2,375	0	0
Puget Sound Chinook	2,720	60,452,494	2,656	60,165,244	64	287,250
Snake River Basin Steelhead	810	13,489,430	761	12,781,098	49	708,332
Upper Columbia River Spring-run Chinook	420	6,669,609	416	6,663,639	4	5,970
Upper Columbia River Steelhead	532	9,381,065	515	8,785,930	16	595,135
Upper Willamette River Chinook	1,999	13,858,311	1,789	13,127,006	210	731,305
Upper Willamette Steelhead	1,753	5,244,233	1,565	4,649,180	188	595,053
All EUSs	8,432	132,513,966	7,819	125,717,682	613	6,796,284

Note: Many of the ESUs overlap, thus the row labeled "All ESUs" estimates unique effects and is not simply the sums of all ESUs

In describing the economic effects of including or excluding a particular area from critical habitat, it is probably not accurate to include all of the co-extensive impacts because it is unlikely that the impacts attributable to critical habitat designation would ever account for the total impacts. However, in examining its extensive consultation record, NOAA Fisheries could not discern a difference in the impact of applying section 7's jeopardy requirement versus applying the adverse modification requirement. For that reason, NOAA Fisheries decided to follow the recommendation of the Tenth Circuit Court of Appeals in a related case and analyze the full impact of the adverse modification requirement, regardless of whether it is coextensive with other requirements, such jeopardy.

Under the ESA, NOAA Fisheries has little discretion, if any, to mandate different compliance methods or schedules for small entities that might "take into account the resources available to small entities" but not comply with the statutory requirements. However, in formulating its biological opinion and any reasonable and prudent alternatives, NOAA Fisheries must use the best scientific and commercial data available and must give appropriate consideration to any beneficial actions taken by the Federal agency or applicant, including any actions taken prior to the initiation of consultation. In addition, NOAA Fisheries must utilize the expertise of the Federal agency and any applicant in identifying reasonable and prudent alternatives. Reasonable and prudent alternatives identified during formal consultation must be economically and technologically feasible.

It is the practice of NOAA Fisheries in a rulemaking to designate critical habitat to also include advice on activities that may destroy or adversely modify critical habitat. By issuing this advice, NOAA Fisheries will explain the proposed rule, provide compliance scenarios to illustrate and clarify any complexities, and provide greater certainty for small businesses' planning purposes.

The ESA requires each Federal agency, in consultation with NOAA Fisheries, to insure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of designated critical habitat. Section 7 offers action agencies and applicants, in consultation with NOAA Fisheries, to craft their actions to avoid jeopardizing the continued existence of any listed species or destroy or adversely modify its critical habitat. NOAA Fisheries acknowledges that technical and functional performance criteria are intended to give discretion in achieving the required end result and provide regulated entities the flexibility to achieve the regulatory objective in a more cost-effective way. To that end, NOAA Fisheries has developed the concept of "proper functioning condition" of salmonid habitat and a "matrix of pathways and indicators" consulting agencies and applicants can use to analyze how their actions will affect proper functioning condition.

Although the proposed rule imposes some costs, it is important to recognize that the designation of critical habitat is mandated by the ESA. NOAA Fisheries considered and rejected the alternative of exempting small entities from coverage of the rule, or any part thereof, because the agency does not have the discretion to provide for exemptions from the requirements of the ESA based on the size of the applicant. However, section 7 of the ESA allows an agency or applicant to apply for an exemption from the requirement to avoid jeopardy or adverse modification of critical habitat.

Appendix A: Estimate of the Number of Small Entities to Which the Proposed Rule will Apply

The purpose of this appendix is to describe how an estimate of the number of regulated small entities in each of the 13 Pacific salmon and steelhead ESUs was derived. For each county included in the analysis, an estimate of the total number of entities within each industry sector subject to the regulation was derived by searching the D&B Duns Market Identifiers (File 516) by NAICS code. Census tract data from the 2000 Census of Population and Housing were used to indirectly estimate the number of businesses in each ESU by assuming that the number of businesses is directly proportional to population density. These percentages were applied to each affected industry to calculate the number of regulated businesses in each sector that are likely to be small.

Table 14. Estimated Number of Regulated Small Entities in Upper Willamette Steelhead ESU by County

County	State	County Population	Estimated Population in ESU	% County Population in ESU	Estimated Number of Regulated Entities in County	Estimated Number of Regulated Small Entities in County	Estimated Number of Regulated Entities in ESU	Estimated Number of Regulated Small Entities in ESU
Benton	OR	78,153	6,401	8.2	159	142	13	12
Clackamas	OR	338,391	170,856	50.5	661	614	334	310
Linn	OR	103,069	95,659	92.8	310	277	288	257
Marion	OR	284,834	138,413	48.6	470	405	228	197
Multnomah	OR	660,486	442,562	67.0	863	740	578	496
Polk	OR	62,380	17,131	27.5	122	98	34	27
Washington	OR	445,342	61,093	13.7	607	531	83	73
Yamhill	OR	84,992	26,798	31.5	226	210	71	66
Total		**2,057,647**	**958,913**	**46.6**	**3,418**	**3,017**	**1,629**	**1,437**

Table 15. Estimated Number of Regulated Small Entities in Upper Willamette Steelhead ESU by County and Industry Sector

County	State	Hydroelectric Power Generation [1]	Water Supply and Irrigation Systems	Forestry and Logging	Beef Cattle Ranching and Farming	Highway, Street, and Bridge Construction	Electric Services/ Natural Gas Distribution [1]	Construction Sand and Gravel Mining	Instream Activites	Other Heavy and Civil Engineering and Construction	Land Sub-division	NPDES-Permitted Activities
Benton	OR	0	0	4	1	1	0	0	1	0	1	3
Clackamas	OR	4	13	40	20	32	5	2	27	26	53	87
Linn	OR	1	10	58	39	19	3	5	16	18	11	77
Marion	OR	1	6	21	16	23	2	2	21	16	25	65
Multnomah	OR	14	9	12	8	38	21	2	54	31	139	167
Polk	OR	0	1	6	3	2	0	1	0	2	4	9
Washington	OR	1	2	6	3	7	1	0	7	6	17	21
Yamhill	OR	1	4	12	12	8	6	0	1	3	2	18
Total		**21**	**45**	**159**	**100**	**131**	**39**	**12**	**126**	**101**	**252**	**447**

[1] All entities in the Hydroelectric Power Generation and Electric Services Sectors are assumed to be small entities. Consequently, the compliance costs for small entities in these sectors represent an upper bound estimate. The number of small entities in the hydroelectric power generation and electrical services industries is unknown because of the unavailability of data related to small business thresholds. For both of these industry sectors the SBA defines a firm as "small" if, including its affiliates, it is primarily engaged in the generation, transmission, and/or distribution of electric energy for sale, and its total electric output for the preceding fiscal year did not exceed 4 million megawatt hours. It was not possible to locate a source that provides this information for all regulated entities within these sectors.

Table 16. Estimated Number of Regulated Small Entities in Upper Willamette River Chinook Salmon ESU by County

County	State	County Population	Estimated Population in ESU	% County Population in ESU	Estimated Number of Regulated Entities in County	Estimated Number of Regulated Small Entities in County	Estimated Number of Regulated Entities in ESU	Estimated Number of Regulated Small Entities in ESU
Benton	OR	78,153	75,635	96.8	159	142	154	137
Clackamas	OR	338,391	223,866	66.2	661	614	437	406
Lane	OR	322,959	165,073	51.1	750	671	383	343
Lincoln	OR	44,479	84	0.2	164	142	0	0
Linn	OR	103,069	102,942	99.9	310	277	310	277
Marion	OR	284,834	138,419	48.6	470	405	228	197
Multnomah	OR	660,486	441,775	66.9	863	740	577	495
Polk	OR	62,380	13,957	22.4	122	98	27	22
Washington	OR	445,342	1,353	0.3	607	531	2	2
Yamhill	OR	84,992	9,048	10.6	226	210	24	22
Total		**2,425,085**	**1,172,152**	**48.3**	**4,332**	**3,830**	**2,143**	**1,901**

Table 17. Estimated Number of Regulated Small Entities in Upper Willamette River Chinook Salmon ESU by County and Industry Sector

County	State	Hydroelectric Power Generation [1]	Water Supply and Irrigation Systems	Forestry and Logging	Beef Cattle Ranching and Farming	Highway, Street, and Bridge Construction	Electric Services/ Natural Gas Distribution [1]	Construction Sand and Gravel Mining	Instream Activites	Other Heavy and Civil Engineering and Construction	Land Sub-division	NPDES-Permitted Activities
Benton	OR	0	2	48	8	10	1	0	7	5	17	39
Clackamas	OR	5	17	52	26	42	7	3	35	34	69	114
Lane	OR	7	8	74	25	31	8	3	20	21	41	105
Lincoln	OR	0	0	0	0	0	0	0	0	0	0	0
Linn	OR	1	11	62	42	21	3	5	17	19	12	83
Marion	OR	1	6	21	16	23	2	2	21	16	25	65
Multnomah	OR	14	9	12	8	38	21	2	54	31	139	167
Polk	OR	0	0	5	2	2	0	0	0	1	3	7
Washington	OR	0	0	0	0	0	0	0	0	0	0	0
Yamhill	OR	0	1	4	4	3	2	0	0	1	1	6
Total		**28**	**55**	**279**	**130**	**169**	**45**	**15**	**154**	**128**	**307**	**586**

[1] All entities in the Hydroelectric Power Generation and Electric Services Sectors are assumed to be small entities. Consequently, the compliance costs for small entities in these sectors represent an upper bound estimate. The number of small entities in the hydroelectric power generation and electrical services industries is unknown because of the unavailability of data related to small business thresholds. For both of these industry sectors the SBA defines a firm as "small" if, including its affiliates, it is primarily engaged in the generation, transmission, and/or distribution of electric energy for sale, and its total electric output for the preceding fiscal year did not exceed 4 million megawatt hours. It was not possible to locate a source that provides this information for all regulated entities within these sectors.

Table 18. Estimated Number of Regulated Small Entities in Lower Columbia River Steelhead ESU by County

County	State	County Population	Estimated Population in ESU	% County Population in ESU	Estimated Number of Regulated Entities in County	Estimated Number of Regulated Small Entities in County	Estimated Number of Regulated Entities in ESU	Estimated Number of Regulated Small Entities in ESU
Clackamas	OR	338,391	204,523	60.4	661	614	400	371
Columbia	OR	43,560	21,746	49.9	174	166	87	83
Hood River	OR	20,411	16,484	80.8	68	65	55	52
Marion	OR	284,834	6	0.0	470	405	0	0
Multnomah	OR	660,486	625,863	94.8	863	740	818	701
Wasco	OR	23,791	46	0.2	66	59	0	0
Washington	OR	445,342	25	0.0	607	531	0	0
Clark	WA	345,238	68,283	19.8	539	483	107	96
Cowlitz	WA	92,948	49,998	53.8	247	221	133	119
Klickitat	WA	19,161	266	1.4	106	101	1	1
Lewis	WA	68,600	22,282	32.5	325	304	106	99
Skamania	WA	9,872	5,132	52.0	30	27	16	14
Total		**2,352,634**	**1,014,654**	**43.1**	**4,156**	**3,716**	**1,721**	**1,536**

Table 19. Estimated Number of Regulated Small Entities in Lower Columbia River Steelhead ESU by County and Industry Sector

County	State	Hydroelectric Power Generation [1]	Water Supply and Irrigation Systems	Forestry and Logging	Beef Cattle Ranching and Farming	Highway, Street, and Bridge Construction	Electric Services/ Natural Gas Distribution [1]	Construction Sand and Gravel Mining	Instream Activites	Other Heavy and Civil Engineering and Construction	Land Sub-division	NPDES-Permitted Activities
Clackamas	OR	4	16	48	24	39	6	2	32	31	63	105
Columbia	OR	1	6	24	11	6	3	0	4	5	3	16
Hood River	OR	3	4	5	2	6	4	0	3	3	8	14
Marion	OR	0	0	0	0	0	0	0	0	0	0	0
Multnomah	OR	20	12	17	11	54	30	3	76	44	197	236
Wasco	OR	0	0	0	0	0	0	0	0	0	0	0
Washington	OR	0	0	0	0	0	0	0	0	0	0	0
Clark	WA	1	1	10	5	15	2	1	8	9	16	28
Cowlitz	WA	2	0	40	12	10	2	1	8	11	6	26
Klickitat	WA	0	0	0	0	0	0	0	0	0	0	0
Lewis	WA	3	2	33	17	10	3	0	5	6	2	17
Skamania	WA	1	0	3	1	2	1	0	1	2	1	4
Total		**35**	**41**	**180**	**82**	**142**	**52**	**7**	**137**	**112**	**296**	**446**

[1] All entities in the Hydroelectric Power Generation and Electric Services Sectors are assumed to be small entities. Consequently, the compliance costs for small entities in these sectors represent an upper bound estimate. The number of small entities in the hydroelectric power generation and electrical services industries is unknown because of the unavailability of data related to small business thresholds. For both of these industry sectors the SBA defines a firm as "small" if, including its affiliates, it is primarily engaged in the generation, transmission, and/or distribution of electric energy for sale, and its total electric output for the preceding fiscal year did not exceed 4 million megawatt hours. It was not possible to locate a source that provides this information for all regulated entities within these sectors.

Table 20. Estimated Number of Regulated Small Entities in Lower Columbia River Chinook Salmon ESU by County

County	State	County Population	Estimated Population in ESU	% County Population in ESU	Estimated Number of Regulated Entities in County	Estimated Number of Regulated Small Entities in County	Estimated Number of Regulated Entities in ESU	Estimated Number of Regulated Small Entities in ESU
Clackamas	OR	338,391	199,342	58.9	661	614	389	362
Clatsop	OR	35,630	11,304	31.7	134	120	43	38
Columbia	OR	43,560	24,865	57.1	174	166	99	95
Hood River	OR	20,411	20,093	98.4	68	65	67	64
Marion	OR	284,834	0	0.0	470	405	0	0
Multnomah	OR	660,486	626,308	94.8	863	740	818	702
Wasco	OR	23,791	709	3.0	66	59	2	2
Washington	OR	445,342	25	0.0	607	531	0	0
Clark	WA	345,238	70,830	20.5	539	483	111	99
Cowlitz	WA	92,948	43,224	46.5	247	221	115	103
Klickitat	WA	19,161	6,844	35.7	106	101	38	36
Lewis	WA	68,600	22,282	32.5	325	304	106	99
Pacific	WA	20,984	1,082	5.2	110	102	6	5
Skamania	WA	9,872	9,339	94.6	30	27	28	26
Wahkiakum	WA	3,824	3,149	82.3	42	39	35	32
Total		**2,413,072**	**1,039,396**	**43.1**	**4,442**	**3,977**	**1,856**	**1,662**

Table 21. Estimated Number of Regulated Small Entities in Lower Columbia River Chinook Salmon ESU by County and Industry Sector

County	State	Hydroelectric Power Generation [1]	Water Supply and Irrigation Systems	Forestry and Logging	Beef Cattle Ranching and Farming	Highway, Street, and Bridge Construction	Electric Services/ Natural Gas Distribution [1]	Construction Sand and Gravel Mining	Instream Activites	Other Heavy and Civil Engineering and Construction	Land Sub-division	NPDES-Permitted Activities
Clackamas	OR	4	15	47	23	38	6	2	31	31	61	102
Clatsop	OR	0	1	9	2	4	0	0	1	3	3	14
Columbia	OR	2	7	27	13	7	3	1	5	6	4	18
Hood River	OR	4	5	6	2	7	5	0	4	4	10	17
Marion	OR	0	0	0	0	0	0	0	0	0	0	0
Multnomah	OR	20	12	17	11	54	30	3	76	44	197	236
Wasco	OR	0	0	0	0	0	0	0	0	0	0	0
Washington	OR	0	0	0	0	0	0	0	0	0	0	0
Clark	WA	1	1	10	5	15	2	1	8	9	17	29
Cowlitz	WA	1	0	35	10	9	2	0	7	10	5	23
Klickitat	WA	1	1	12	7	4	1	0	1	1	1	6
Lewis	WA	3	2	33	17	10	3	0	5	6	2	17
Pacific	WA	0	0	1	0	0	0	0	0	0	0	3
Skamania	WA	1	0	6	2	4	1	0	1	3	1	8
Wahkiakum	WA	1	0	12	4	2	1	1	1	2	0	9
Total		**38**	**45**	**214**	**97**	**155**	**56**	**9**	**141**	**120**	**301**	**482**

[1] All entities in the Hydroelectric Power Generation and Electric Services Sectors are assumed to be small entities. Consequently, the compliance costs for small entities in these sectors represent an upper bound estimate. The number of small entities in the hydroelectric power generation and electrical services industries is unknown because of the unavailability of data related to small business thresholds. For both of these industry sectors the SBA defines a firm as "small" if, including its affiliates, it is primarily engaged in the generation, transmission, and/or distribution of electric energy for sale, and its total electric output for the preceding fiscal year did not exceed 4 million megawatt hours. It was not possible to locate a source that provides this information for all regulated entities within these sectors.

Table 22. Estimated Number of Regulated Small Entities in Columbia River Chum Salmon ESU by County

County	State	County Population	Estimated Population in ESU	% County Population in ESU	Estimated Number of Regulated Entities in County	Estimated Number of Regulated Small Entities in County	Estimated Number of Regulated Entities in ESU	Estimated Number of Regulated Small Entities in ESU
Clatsop	OR	35,630	10,162	28.5	134	120	38	34
Hood River	OR	20,411	3,799	18.6	68	65	13	12
Multnomah	OR	660,486	1,853	0.3	863	740	2	2
Wasco	OR	23,791	709	3.0	66	59	2	2
Clark	WA	345,238	345,238	100.0	539	483	539	483
Cowlitz	WA	92,948	92,800	99.8	247	221	247	221
Klickitat	WA	19,161	6,844	35.7	106	101	38	36
Lewis	WA	68,600	12,632	18.4	325	304	60	56
Pacific	WA	20,984	1,082	5.2	110	102	6	5
Skamania	WA	9,872	7,065	71.6	30	27	21	19
Wahkiakum	WA	3,824	3,315	86.7	42	39	36	34
Total		**1,300,945**	**485,499**	**37.3**	**2,530**	**2,261**	**1,002**	**904**

Table 23. Estimated Number of Regulated Small Entities in Columbia River Chum Salmon ESU by County and Industry Sector

County	State	Hydroelectric Power Generation [1]	Water Supply and Irrigation Systems	Forestry and Logging	Beef Cattle Ranching and Farming	Highway, Street, and Bridge Construction	Electric Services/ Natural Gas Distribution [1]	Construction Sand and Gravel Mining	Instream Activites	Other Heavy and Civil Engineering and Construction	Land Sub-division	NPDES-Permitted Activities
Clatsop	OR	0	1	8	2	3	0	0	1	3	2	13
Hood River	OR	1	1	1	0	1	1	0	1	1	2	3
Multnomah	OR	0	0	0	0	0	0	0	0	0	1	1
Wasco	OR	0	0	0	0	0	0	0	0	0	0	0
Clark	WA	6	3	50	23	74	12	4	41	46	82	141
Cowlitz	WA	3	0	75	22	19	4	1	15	21	11	49
Klickitat	WA	1	1	12	7	4	1	0	1	1	1	6
Lewis	WA	2	1	19	9	6	2	0	3	4	1	10
Pacific	WA	0	0	1	0	0	0	0	0	0	0	3
Skamania	WA	1	0	4	1	3	1	0	1	2	1	6
Wahkiakum	WA	1	0	12	4	3	1	1	1	2	0	10
Total		**14**	**7**	**182**	**70**	**114**	**22**	**7**	**64**	**80**	**101**	**240**

[1] All entities in the Hydroelectric Power Generation and Electric Services Sectors are assumed to be small entities. Consequently, the compliance costs for small entities in these sectors represent an upper bound estimate. The number of small entities in the hydroelectric power generation and electrical services industries is unknown because of the unavailability of data related to small business thresholds. For both of these industry sectors the SBA defines a firm as "small" if, including its affiliates, it is primarily engaged in the generation, transmission, and/or distribution of electric energy for sale, and its total electric output for the preceding fiscal year did not exceed 4 million megawatt hours. It was not possible to locate a source that provides this information for all regulated entities within these sectors.

Table 24. Estimated Number of Regulated Small Entities in Ozette Lake Sockeye Salmon ESU by County

County	State	County Population	Estimated Population in ESU	% County Population in ESU	Estimated Number of Regulated Entities in County	Estimated Number of Regulated Small Entities in County	Estimated Number of Regulated Entities in ESU	Estimated Number of Regulated Small Entities in ESU
Clallam	WA	64,525	85	0.1	246	236	0	0
Total		**64,525**	**85**	**0.1**	**246**	**236**	**0**	**0**

Table 25. Estimated Number of Regulated Small Entities in Ozette Lake Sockeye Salmon ESU by County and Industry Sector

County	State	Hydroelectric Power Generation [1]	Water Supply and Irrigation Systems	Forestry and Logging	Beef Cattle Ranching and Farming	Highway, Street, and Bridge Construction	Electric Services/ Natural Gas Distribution [1]	Construction Sand and Gravel Mining	Instream Activites	Other Heavy and Civil Engineering and Construction	Land Sub-division	NPDES-Permitted Activities
Clallam	WA	0	0	0	0	0	0	0	0	0	0	0
Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

[1] All entities in the Hydroelectric Power Generation and Electric Services Sectors are assumed to be small entities. Consequently, the compliance costs for small entities in these sectors represent an upper bound estimate. The number of small entities in the hydroelectric power generation and electrical services industries is unknown because of the unavailability of data related to small business thresholds. For both of these industry sectors the SBA defines a firm as "small" if, including its affiliates, it is primarily engaged in the generation, transmission, and/or distribution of electric energy for sale, and its total electric output for the preceding fiscal year did not exceed 4 million megawatt hours. It was not possible to locate a source that provides this information for all regulated entities within these sectors.

Table 26. Estimated Number of Regulated Small Entities in Hood Canal Summer-run Chum Salmon ESU by County

County	State	County Population	Estimated Population in ESU	% County Population in ESU	Estimated Number of Regulated Entities in County	Estimated Number of Regulated Small Entities in County	Estimated Number of Regulated Entities in ESU	Estimated Number of Regulated Small Entities in ESU
Clallam	WA	64,525	20,756	32.2	246	236	79	76
Jefferson	WA	25,953	25,345	97.7	108	100	105	98
Kitsap	WA	231,969	22,301	9.6	368	348	35	33
Mason	WA	49,405	8,703	17.6	165	152	29	27
Total		**371,852**	**77,105**	**20.7**	**887**	**836**	**249**	**234**

Table 27. Estimated Number of Regulated Small Entities in Hood Canal Summer-run Chum Salmon ESU by County and Industry Sector

County	State	Hydroelectric Power Generation [1]	Water Supply and Irrigation Systems	Forestry and Logging	Beef Cattle Ranching and Farming	Highway, Street, and Bridge Construction	Electric Services/ Natural Gas Distribution [1]	Construction Sand and Gravel Mining	Instream Activites	Other Heavy and Civil Engineering and Construction	Land Sub-division	NPDES-Permitted Activities
Clallam	WA	1	3	27	1	7	1	0	5	6	4	20
Jefferson	WA	3	2	18	4	7	4	0	10	12	6	33
Kitsap	WA	1	1	3	0	3	1	0	5	4	4	11
Mason	WA	1	2	5	1	2	1	0	3	3	1	8
Total		**5**	**8**	**53**	**6**	**19**	**7**	**1**	**23**	**25**	**14**	**72**

[1] All entities in the Hydroelectric Power Generation and Electric Services Sectors are assumed to be small entities. Consequently, the compliance costs for small entities in these sectors represent an upper bound estimate. The number of small entities in the hydroelectric power generation and electrical services industries is unknown because of the unavailability of data related to small business thresholds. For both of these industry sectors the SBA defines a firm as "small" if, including its affiliates, it is primarily engaged in the generation, transmission, and/or distribution of electric energy for sale, and its total electric output for the preceding fiscal year did not exceed 4 million megawatt hours. It was not possible to locate a source that provides this information for all regulated entities within these sectors.

Table 28. Estimated Number of Regulated Small Entities in Upper Columbia River Spring-run Chinook Salmon ESU by County

County	State	County Population	Estimated Population in ESU	% County Population in ESU	Estimated Number of Regulated Entities in County	Estimated Number of Regulated Small Entities in County	Estimated Number of Regulated Entities in ESU	Estimated Number of Regulated Small Entities in ESU
Gilliam	OR	1,915	338	17.6	15	14	3	2
Hood River	OR	20,411	190	0.9	68	65	1	1
Morrow	OR	10,995	3,487	31.7	48	40	15	13
Multnomah	OR	660,486	622	0.1	863	740	1	1
Sherman	OR	1,934	780	40.3	14	14	6	6
Umatilla	OR	70,548	884	1.3	175	149	2	2
Wasco	OR	23,791	7,790	32.7	66	59	22	19
Adams	WA	16,428	26	0.2	54	43	0	0
Benton	WA	142,475	67,793	47.6	190	169	90	80
Chelan	WA	66,616	33,955	51.0	171	157	87	80
Clark	WA	345,238	3,666	1.1	539	483	6	5
Douglas	WA	32,603	19,961	61.2	42	40	26	24
Franklin	WA	49,347	8,758	17.7	78	62	14	11
Grant	WA	74,698	4,750	6.4	145	121	9	8
Kittitas	WA	33,362	121	0.4	129	119	0	0
Klickitat	WA	19,161	1,505	7.9	106	101	8	8
Okanogan	WA	39,564	8,414	21.3	145	140	31	30
Skamania	WA	9,872	1,113	11.3	30	27	3	3
Walla Walla	WA	55,180	2,472	4.5	93	82	4	4
Yakima	WA	222,581	2	0.0	305	255	0	0
Total		**1,897,205**	**166,626**	**8.8**	**3,276**	**2,880**	**328**	**297**

Table 29. Estimated Number of Regulated Small Entities in Upper Columbia River Spring-run Chinook Salmon ESU by County and Industry Sector

County	State	Hydroelectric Power Generation [1]	Water Supply and Irrigation Systems	Forestry and Logging	Beef Cattle Ranching and Farming	Highway, Street, and Bridge Construction	Electric Services/ Natural Gas Distribution [1]	Construction Sand and Gravel Mining	Instream Activites	Other Heavy and Civil Engineering and Construction	Land Sub-division	NPDES-Permitted Activities
Gilliam	OR	0	0	0	2	0	0	0	0	0	0	0
Hood River	OR	0	0	0	0	0	0	0	0	0	0	0
Morrow	OR	1	1	1	5	0	2	0	0	0	0	3
Multnomah	OR	0	0	0	0	0	0	0	0	0	0	0
Sherman	OR	0	0	0	4	0	0	0	0	0	0	1
Umatilla	OR	0	0	0	1	0	0	0	0	0	0	0
Wasco	OR	0	2	1	4	3	1	0	2	2	0	4
Adams	WA	0	0	0	0	0	0	0	0	0	0	0
Benton	WA	2	7	1	12	9	3	0	10	8	8	20
Chelan	WA	3	9	9	4	9	3	0	6	5	10	22
Clark	WA	0	0	1	0	1	0	0	0	0	1	1
Douglas	WA	1	1	1	2	2	2	0	2	1	3	7
Franklin	WA	0	1	0	1	1	1	0	1	0	1	4
Grant	WA	0	1	0	2	1	0	0	1	1	0	2
Kittitas	WA	0	0	0	0	0	0	0	0	0	0	0
Klickitat	WA	0	0	3	1	1	0	0	0	0	0	1
Okanogan	WA	1	2	6	7	2	2	0	2	0	2	5
Skamania	WA	0	0	1	0	0	0	0	0	0	0	1
Walla Walla	WA	0	0	0	0	0	0	0	0	0	0	1
Yakima	WA	0	0	0	0	0	0	0	0	0	0	0
Total		**9**	**24**	**23**	**47**	**31**	**16**	**1**	**25**	**20**	**27**	**74**

[1] All entities in the Hydroelectric Power Generation and Electric Services Sectors are assumed to be small entities. Consequently, the compliance costs for small entities in these sectors represent an upper bound estimate. The number of small entities in the hydroelectric power generation and electrical services industries is unknown because of the unavailability of data related to small business thresholds. For both of these industry sectors the SBA defines a firm as "small" if, including its affiliates, it is primarily engaged in the generation, transmission, and/or distribution of electric energy for sale, and its total electric output for the preceding fiscal year did not exceed 4 million megawatt hours. It was not possible to locate a source that provides this information for all regulated entities within these sectors.

Table 30. Estimated Number of Regulated Small Entities in Upper Columbia River Steelhead ESU by County

County	State	County Population	Estimated Population in ESU	% County Population in ESU	Estimated Number of Regulated Entities in County	Estimated Number of Regulated Small Entities in County	Estimated Number of Regulated Entities in ESU	Estimated Number of Regulated Small Entities in ESU
Gilliam	OR	1,915	338	17.6	15	14	3	2
Hood River	OR	20,411	190	0.9	68	65	1	1
Morrow	OR	10,995	3,487	31.7	48	40	15	13
Multnomah	OR	660,486	622	0.1	863	740	1	1
Sherman	OR	1,934	780	40.3	14	14	6	6
Umatilla	OR	70,548	884	1.3	175	149	2	2
Wasco	OR	23,791	7,790	32.7	66	59	22	19
Adams	WA	16,428	3,582	21.8	54	43	12	9
Benton	WA	142,475	86,506	60.7	190	169	115	103
Chelan	WA	66,616	47,598	71.5	171	157	122	112
Clark	WA	345,238	3,666	1.1	539	483	6	5
Douglas	WA	32,603	19,970	61.3	42	40	26	25
Franklin	WA	49,347	12,873	26.1	78	62	20	16
Grant	WA	74,698	11,359	15.2	145	121	22	18
Kittitas	WA	33,362	174	0.5	129	119	1	1
Klickitat	WA	19,161	1,505	7.9	106	101	8	8
Okanogan	WA	39,564	34,951	88.3	145	140	128	124
Skamania	WA	9,872	1,113	11.3	30	27	3	3
Walla Walla	WA	55,180	2,627	4.8	93	82	4	4
Yakima	WA	222,581	2	0.0	305	255	0	0
Total		**1,897,205**	**240,017**	**12.7**	**3,276**	**2,880**	**517**	**471**

Table 31. Estimated Number of Regulated Small Entities in Upper Columbia River Steelhead ESU by County and Industry Sector

County	State	Hydroelectric Power Generation [1]	Water Supply and Irrigation Systems	Forestry and Logging	Beef Cattle Ranching and Farming	Highway, Street, and Bridge Construction	Electric Services/ Natural Gas Distribution [1]	Construction Sand and Gravel Mining	Instream Activites	Other Heavy and Civil Engineering and Construction	Land Sub-division	NPDES-Permitted Activities
Gilliam	OR	0	0	0	2	0	0	0	0	0	0	0
Hood River	OR	0	0	0	0	0	0	0	0	0	0	0
Morrow	OR	1	1	1	5	0	2	0	0	0	0	3
Multnomah	OR	0	0	0	0	0	0	0	0	0	0	0
Sherman	OR	0	0	0	4	0	0	0	0	0	0	1
Umatilla	OR	0	0	0	1	0	0	0	0	0	0	0
Wasco	OR	0	2	1	4	3	1	0	2	2	0	4
Adams	WA	1	2	0	3	0	1	0	1	0	0	2
Benton	WA	2	9	1	16	12	4	1	12	10	10	26
Chelan	WA	4	13	13	5	13	4	0	9	7	14	31
Clark	WA	0	0	1	0	1	0	0	0	0	1	1
Douglas	WA	1	1	1	2	2	2	0	2	1	3	7
Franklin	WA	0	1	0	2	1	1	0	2	1	2	6
Grant	WA	1	2	0	5	2	1	0	2	2	1	4
Kittitas	WA	0	0	0	0	0	0	0	0	0	0	0
Klickitat	WA	0	0	3	1	1	0	0	0	0	0	1
Okanogan	WA	4	10	23	29	10	7	0	10	2	7	22
Skamania	WA	0	0	1	0	0	0	0	0	0	0	1
Walla Walla	WA	0	0	0	0	0	0	0	0	0	0	1
Yakima	WA	0	0	0	0	0	0	0	0	0	0	0
Total		**15**	**41**	**45**	**80**	**46**	**25**	**1**	**40**	**27**	**39**	**111**

[1] All entities in the Hydroelectric Power Generation and Electric Services Sectors are assumed to be small entities. Consequently, the compliance costs for small entities in these sectors represent an upper bound estimate. The number of small entities in the hydroelectric power generation and electrical services industries is unknown because of the unavailability of data related to small business thresholds. For both of these industry sectors the SBA defines a firm as "small" if, including its affiliates, it is primarily engaged in the generation, transmission, and/or distribution of electric energy for sale, and its total electric output for the preceding fiscal year did not exceed 4 million megawatt hours. It was not possible to locate a source that provides this information for all regulated entities within these sectors.

Table 32. Estimated Number of Regulated Small Entities in Middle Columbia River Steelhead ESU by County

County	State	County Population	Estimated Population in ESU	% County Population in ESU	Estimated Number of Regulated Entities in County	Estimated Number of Regulated Small Entities in County	Estimated Number of Regulated Entities in ESU	Estimated Number of Regulated Small Entities in ESU
Gilliam	OR	1,915	1,690	88.3	15	14	13	12
Grant	OR	7,935	7,597	95.7	83	78	79	75
Hood River	OR	20,411	3,006	14.7	68	65	10	10
Jefferson	OR	19,009	3,955	20.8	74	72	15	15
Morrow	OR	10,995	7,815	71.1	48	40	34	28
Multnomah	OR	660,486	622	0.1	863	740	1	1
Sherman	OR	1,934	1,929	99.7	14	14	14	14
Umatilla	OR	70,548	67,732	96.0	175	149	168	143
Wasco	OR	23,791	22,678	95.3	66	59	63	56
Wheeler	OR	1,547	1,541	99.6	21	20	21	20
Benton	WA	142,475	142,317	99.9	190	169	190	169
Clark	WA	345,238	3,666	1.1	539	483	6	5
Columbia	WA	4,064	3,526	86.8	16	15	14	13
Franklin	WA	49,347	12,225	24.8	78	62	19	15
Kittitas	WA	33,362	33,188	99.5	129	119	128	118
Klickitat	WA	19,161	16,447	85.8	106	101	91	87
Skamania	WA	9,872	1,920	19.4	30	27	6	5
Walla Walla	WA	55,180	52,874	95.8	93	82	89	79
Yakima	WA	222,581	222,581	100.0	305	255	305	255
Total		**1,699,851**	**607,309**	**35.7**	**2,913**	**2,564**	**1,267**	**1,120**

Table 33. Estimated Number of Regulated Small Entities in Middle Columbia River Steelhead ESU by County and Industry Sector

County	State	Hydroelectric Power Generation [1]	Water Supply and Irrigation Systems	Forestry and Logging	Beef Cattle Ranching and Farming	Highway, Street, and Bridge Construction	Electric Services/ Natural Gas Distribution [1]	Construction Sand and Gravel Mining	Instream Activites	Other Heavy and Civil Engineering and Construction	Land Sub-division	NPDES-Permitted Activities
Gilliam	OR	1	0	0	8	0	2	0	0	0	0	2
Grant	OR	2	0	22	33	4	3	0	1	4	0	7
Hood River	OR	1	1	1	0	1	1	0	1	1	1	3
Jefferson	OR	0	1	2	5	2	0	0	1	1	1	2
Morrow	OR	2	1	2	12	1	4	0	0	0	1	6
Multnomah	OR	0	0	0	0	0	0	0	0	0	0	0
Sherman	OR	1	0	0	9	1	1	0	0	0	0	2
Umatilla	OR	5	6	12	41	12	8	1	9	3	11	36
Wasco	OR	1	6	3	12	8	4	1	5	6	1	10
Wheeler	OR	0	0	2	15	1	0	0	0	1	0	1
Benton	WA	4	14	2	26	19	7	1	20	17	16	42
Clark	WA	0	0	1	0	1	0	0	0	0	1	1
Columbia	WA	0	0	3	3	0	0	0	2	2	0	3
Franklin	WA	0	1	0	2	1	1	0	2	0	2	6
Kittitas	WA	2	8	29	33	8	4	0	3	6	7	19
Klickitat	WA	3	2	29	16	10	3	1	3	3	2	15
Skamania	WA	0	0	1	0	1	0	0	0	1	0	2
Walla Walla	WA	3	3	5	8	9	4	0	6	10	10	23
Yakima	WA	5	20	12	46	27	6	2	26	16	20	74
Total		**29**	**63**	**125**	**269**	**105**	**47**	**6**	**78**	**69**	**72**	**254**

[1] All entities in the Hydroelectric Power Generation and Electric Services Sectors are assumed to be small entities. Consequently, the compliance costs for small entities in these sectors represent an upper bound estimate. The number of small entities in the hydroelectric power generation and electrical services industries is unknown because of the unavailability of data related to small business thresholds. For both of these industry sectors the SBA defines a firm as "small" if, including its affiliates, it is primarily engaged in the generation, transmission, and/or distribution of electric energy for sale, and its total electric output for the preceding fiscal year did not exceed 4 million megawatt hours. It was not possible to locate a source that provides this information for all regulated entities within these sectors.

Table 34. Estimated Number of Regulated Small Entities in Puget Sound Chinook Salmon ESU by County

County	State	County Population	Estimated Population in ESU	% County Population in ESU	Estimated Number of Regulated Entities in County	Estimated Number of Regulated Small Entities in County	Estimated Number of Regulated Entities in ESU	Estimated Number of Regulated Small Entities in ESU
Clallam	WA	64,525	17,109	26.5	246	236	65	63
Island	WA	71,558	1,632	2.3	144	138	3	3
Jefferson	WA	25,953	1,387	5.3	108	100	6	5
King	WA	1,737,034	1,309,596	75.4	2,477	2,141	1,867	1,614
Kitsap	WA	231,969	6,258	2.7	368	348	10	9
Mason	WA	49,405	4,265	8.6	165	152	14	13
Pierce	WA	700,820	301,597	43.0	926	752	399	324
San Juan	WA	14,077	1,050	7.5	87	83	6	6
Skagit	WA	102,979	66,036	64.1	342	313	219	201
Snohomish	WA	606,024	303,989	50.2	952	880	478	441
Thurston	WA	207,355	26,508	12.8	388	355	50	45
Whatcom	WA	166,814	54,683	32.8	474	399	155	131
Total		**3,978,513**	**2,094,110**	**52.6**	**6,677**	**5,897**	**3,273**	**2,856**

Table 35. Estimated Number of Regulated Small Entities in Puget Sound Chinook Salmon ESU by County and Industry Sector

County	State	Hydroelectric Power Generation [1]	Water Supply and Irrigation Systems	Forestry and Logging	Beef Cattle Ranching and Farming	Highway, Street, and Bridge Construction	Electric Services/ Natural Gas Distribution [1]	Construction Sand and Gravel Mining	Instream Activites	Other Heavy and Civil Engineering and Construction	Land Sub-division	NPDES-Permitted Activities
Clallam	WA	1	3	22	1	6	1	0	5	5	3	16
Island	WA	0	1	0	0	0	0	0	0	0	0	1
Jefferson	WA	0	0	1	0	0	0	0	1	1	0	2
King	WA	14	35	53	14	136	26	8	155	121	424	622
Kitsap	WA	0	0	1	0	1	0	0	1	1	1	3
Mason	WA	0	1	3	0	1	0	0	1	2	0	4
Pierce	WA	6	9	9	12	35	9	3	44	26	55	114
San Juan	WA	0	1	1	0	0	0	0	1	1	0	2
Skagit	WA	3	1	31	14	20	4	2	19	22	15	69
Snohomish	WA	7	12	39	11	44	8	4	37	44	69	167
Thurston	WA	1	2	7	4	4	1	1	3	5	6	12
Whatcom	WA	3	9	14	10	8	4	1	10	13	9	51
Total		**35**	**73**	**180**	**67**	**254**	**54**	**17**	**277**	**241**	**583**	**1,062**

[1] All entities in the Hydroelectric Power Generation and Electric Services Sectors are assumed to be small entities. Consequently, the compliance costs for small entities in these sectors represent an upper bound estimate. The number of small entities in the hydroelectric power generation and electrical services industries is unknown because of the unavailability of data related to small business thresholds. For both of these industry sectors the SBA defines a firm as "small" if, including its affiliates, it is primarily engaged in the generation, transmission, and/or distribution of electric energy for sale, and its total electric output for the preceding fiscal year did not exceed 4 million megawatt hours. It was not possible to locate a source that provides this information for all regulated entities within these sectors.

Table 36. Estimated Number of Regulated Small Entities in Snake River Basin Steelhead ESU by County

County	State	County Population	Estimated Population in ESU	% County Population in ESU	Estimated Number of Regulated Entities in County	Estimated Number of Regulated Small Entities in County	Estimated Number of Regulated Entities in ESU	Estimated Number of Regulated Small Entities in ESU
Adams	ID	3,476	199	5.7	39	38	2	2
Blaine	ID	18,991	23	0.1	100	96	0	0
Clearwater	ID	8,930	7,487	83.8	62	57	52	48
Custer	ID	4,342	2,646	60.9	34	34	21	21
Idaho	ID	15,511	12,184	78.6	92	88	72	69
Latah	ID	34,935	5,119	14.7	73	70	11	10
Lemhi	ID	7,806	7,630	97.7	47	44	46	43
Lewis	ID	3,747	2,713	72.4	29	26	21	19
Nez Perce	ID	37,410	32,570	87.1	74	68	64	59
Shoshone	ID	13,771	0	0.0	43	41	0	0
Valley	ID	7,651	75	1.0	45	42	0	0
Gilliam	OR	1,915	338	17.6	15	14	3	2
Hood River	OR	20,411	190	0.9	68	65	1	1
Morrow	OR	10,995	3,487	31.7	48	40	15	13
Multnomah	OR	660,486	622	0.1	863	740	1	1
Sherman	OR	1,934	780	40.3	14	14	6	6
Umatilla	OR	70,548	894	1.3	175	149	2	2
Union	OR	24,530	23,735	96.8	111	104	107	101
Wallowa	OR	7,226	7,226	100.0	91	89	91	89
Wasco	OR	23,791	7,790	32.7	66	59	22	19
Adams	WA	16,428	34	0.2	54	43	0	0
Asotin	WA	20,551	20,551	100.0	46	43	46	43
Benton	WA	142,475	67,793	47.6	190	169	90	80
Clark	WA	345,238	3,666	1.1	539	483	6	5
Columbia	WA	4,064	342	8.4	16	15	1	1
Franklin	WA	49,347	8,858	18.0	78	62	14	11
Garfield	WA	2,397	432	18.0	3	3	1	1
Klickitat	WA	19,161	1,505	7.9	106	101	8	8
Skamania	WA	9,872	1,113	11.3	30	27	3	3
Walla Walla	WA	55,180	3,836	7.0	93	82	6	6
Whitman	WA	40,740	1,191	2.9	58	53	2	2
Yakima	WA	222,581	2	0.0	305	255	0	0
Total		**1,906,440**	**225,029**	**11.8**	**3,607**	**3,214**	**715**	**664**

Table 37. Estimated Number of Regulated Small Entities in Snake River Basin Steelhead ESU by County and Industry Sector

County	State	Hydroelectric Power Generation [1]	Water Supply and Irrigation Systems	Forestry and Logging	Beef Cattle Ranching and Farming	Highway, Street, and Bridge Construction	Electric Services/ Natural Gas Distribution [1]	Construction Sand and Gravel Mining	Instream Activites	Other Heavy & Civil Engineering & Construction	Land Sub-division	NPDES-Permitted Activities
Adams	ID	0	0	1	1	0	0	0	0	0	0	0
Blaine	ID	0	0	0	0	0	0	0	0	0	0	0
Clearwater	ID	1	2	28	2	1	1	0	3	0	2	10
Custer	ID	0	1	1	10	1	1	0	0	1	1	5
Idaho	ID	1	2	16	19	9	2	0	4	3	0	15
Latah	ID	0	0	5	2	1	0	0	1	1	0	1
Lemhi	ID	0	2	2	20	5	1	0	3	2	3	6
Lewis	ID	0	0	7	6	1	0	0	1	1	1	2
Nez Perce	ID	1	3	12	1	7	2	2	4	6	10	10
Shoshone	ID	0	0	0	0	0	0	0	0	0	0	0
Valley	ID	0	0	0	0	0	0	0	0	0	0	0
Gilliam	OR	0	0	0	2	0	0	0	0	0	0	0
Hood River	OR	0	0	0	0	0	0	0	0	0	0	0
Morrow	OR	1	1	1	5	0	2	0	0	0	0	3
Multnomah	OR	0	0	0	0	0	0	0	0	0	0	0
Sherman	OR	0	0	0	4	0	0	0	0	0	0	1
Umatilla	OR	0	0	0	1	0	0	0	0	0	0	0
Union	OR	1	1	19	48	5	1	0	6	5	3	12
Wallowa	OR	1	4	18	44	5	1	0	2	2	2	10
Wasco	OR	0	2	1	4	3	1	0	2	2	0	4
Adams	WA	0	0	0	0	0	0	0	0	0	0	0
Asotin	WA	0	1	11	10	4	0	0	4	4	2	7
Benton	WA	2	7	1	12	9	3	0	10	8	8	20
Clark	WA	0	0	1	0	1	0	0	0	0	1	1
Columbia	WA	0	0	0	0	0	0	0	0	0	0	0
Franklin	WA	0	1	0	1	1	1	0	1	0	1	4
Garfield	WA	0	0	0	0	0	0	0	0	0	0	0
Klickitat	WA	0	0	3	1	1	0	0	0	0	0	1
Skamania	WA	0	0	1	0	0	0	0	0	0	0	1
Walla Walla	WA	0	0	0	1	1	0	0	0	1	1	2
Whitman	WA	0	0	0	0	0	0	0	0	0	0	0
Yakima	WA	0	0	0	0	0	0	0	0	0	0	0
Total		**9**	**27**	**126**	**194**	**54**	**17**	**3**	**41**	**37**	**36**	**118**

[1] All entities in the Hydroelectric Power Generation and Electric Services Sectors are assumed to be small entities. Consequently, the compliance costs for small entities in these sectors represent an upper bound estimate. The number of small entities in the hydroelectric power generation and electrical services industries is unknown because of the unavailability of data related to small business thresholds. For both of these industry sectors the SBA defines a firm as "small" if, including its affiliates, it is primarily engaged in the generation, transmission, and/or distribution of electric energy for sale, and its total electric output for the preceding fiscal year did not exceed 4 million megawatt hours. It was not possible to locate a source that provides this information for all regulated entities within these sectors

Appendix B: Estimate of the Economic Impacts on Small Entities by ESU

The purpose of this appendix is to describe how estimates of the compliance costs for small entities in each of the 13 Pacific salmon and steelhead ESUs were derived. Estimates of the costs per project for each industry sector were based on a review of the historical consultation record (Table 38). The costs were annualized over a 5- to 30-year time horizon, depending on the expected life of the project. It is likely that businesses that do not meet SBA's small business size standards will have larger projects and, therefore, greater costs per project. However, in order to present a conservative (i.e., high end) estimate of per-project costs, this analysis assumes that these costs are as high for small businesses as they are for larger ones.

An estimate of the number of projects that would be affected by section 7 consultation was only available for all businesses, both large and small. It is likely that businesses that do not meet SBA's small business size standards will have a greater number of affected projects per entity. However, due to a lack of information regarding the number of affected projects involving small entities, this analysis conservatively assumes that the ratio of small entity projects to all projects is equal to the ratio of small entities to all entities.

Based on the predicted annual project modification costs and number of projects by small entities that would be affected, an estimate of the annual economic impacts on small entities in each ESU was calculated. Both overall compliance costs and per-entity compliance costs are presented. The cost estimates in the tables represent all costs attributable to Pacific salmon and steelhead section 7 consultations, including both those attributable to the listing of the ESUs as well as those attributable to critical habitat designation.

Table 38. Estimates of Expected Costs of Section 7 Impacts to a Project by Industry Sector

Sector	Activity	Cost Category	Range	Average Cost	Unit	Time Frame	Discount Rate	Present Value	Annualized Value
Hydroelectric power generation	Hydropower projects	Low	$162,000	varies	per dam	10	7%	varies	
		High	$595,000,000						
Water Supply and Irrigation Systems	Dam and reservoir operations and irrigation water diversions	Low	$24,000	$2,120,500	per dam	20	7%	$1,123,230	$106,025
		High	$4,217,000						
Forestry and Logging	Federal land activities	Idaho Low	$0.68	$1.26	per acre	10	7%	$8.85	$1.26
		Idaho High	$1.84						
		Western OR/WA Low	$3.08	$5.90				$41.40	$5.90
		Western OR/WA High	$8.71						
		Eastern OR/WA Low	$1.62	$3.30				$23.18	$3.30
		Eastern OR/WA High	$4.98						
		Northern CA Low	$4.91	$8.95				$62.83	$8.95
		Northern CA High	$12.98						
		Southern CA Low	$6.04	$12.16				$85.37	$12.16
		Southern CA High	$18.27						
Beef Cattle Ranching and Farming	Grazing	Low	$11	$29.00	per acre	10	7%	$20.368	$3
		High	$47						
Highway, Street, and Bridge Construction	Roads	Small	$22,800		per mile	5	7%	varies	see worksheet "Trans"
		Medium	$47,000						
		Large	$71,300						
	Bridges and culverts	Small	$27,800						
		Medium	$55,500						
		Large	$84,300						
Electric Services/ Natural Gas Distribution	Outfall structures and pipelines	Low	$100,000	$101,000	per project	8	7%	$75,388	$12,625
		High	$102,000						
Mining	Mining on non-Federal lands	Low	$0	$800,000	per project	30	7%	$330,908	$26,667
		High	$1,600,000						

Sector	Activity	Cost Category	Range	Average Cost	Unit	Time Frame	Discount Rate	Present Value	Annualized Value
Utility Line Construction/Other Heavy and Civil Engineering and Construction	Dredging	Low	$332,000	$821,000	per project	8	7%	$612,805	$102,625
		High	$1,310,000						
	Dredging - SF Bay	Low	$42,000	$91,000	per project	8	7%	$67,924	$11,375
		High	$140,000						
	Boat Dock, Boat Ramps, Bank Stabilization	Low	$25,000	$54,500	per project	8	7%	$40,679	$6,813
		High	$84,000						
Land Sub-division	New development	Low	$230,000	$235,000	per project	20	7%	$124,480	$11,750
		High	$240,000						
NPDES-Permitted Activities		Low-Min O&M cost only	$0	$136,000	per facility	20	7%	$72,039	$6,800
		High-Min O&M cost only	$272,000						
		Major-Ave. O&M cost	$394,500	$816,000	per facility	20	7%	$630,467	$59,512
		Major-Capital cost	$421,500						

Table 39. Estimated Annual Economic Impacts on Small Entities in Upper Willamette River Steelhead ESU by Industry Sector

	Hydroelectric Power Generation [1]	Water Supply and Irrigation Systems	Forestry and Logging	Beef Cattle Ranching and Farming	Highway, Street, and Bridge Construction	Electric Services/ Natural Gas Distribution [1]	Construction Sand and Gravel Mining	Utility Line Construction	Other Heavy and Civil Engineering and Construction	Land Sub-division	NPDES-Permitted Activities
Project Costs, All Entities ($)	400,564	434,703	1,566,819	592	102,405	370,796	186,667	127,326	3,288,105	70,500	635,706
No. of Small Entities	27	54	193	125	161	52	14	149	121	308	549
Small Entities as Percent of Total	100%	94%	96%	97%	95%	89%	84%	86%	95%	96%	77%
Project Costs, Small Entities	400,564	409,335	150,355	574	9,762	329,947	156,252	109,808	3,120,952	67,872	488,813
Costs per Small Entity ($)	15,029	7,514	780	5	61	6,394	11,244	736	25,697	221	891

Note: Cost estimates include all section 7 costs, including those co-extensive with the listing and designation of critical habitat for the ESU. Costs are presented on an annualized basis.

[1] All entities in the Hydroelectric Power Generation and Electric Services sectors are assumed to be small entities. Consequently, the compliance costs for these sectors represents an upper bound estimate. The number of small entities in the hydroelectric power generation and electrical services industries is unknown because of the unavailability of data related to small business thresholds. For both of these industry sectors the SBA defines a firm as "small" if, including its affiliates, it is primarily engaged in the generation, transmission, and/or distribution of electric energy for sale, and its total electric output for the preceding fiscal year did not exceed 4 million megawatt hours. It was not possible to locate a source that provides this information for all regulated entities within these sectors.

Table 40. Estimated Annual Economic Impacts on Small Entities in Upper Willamette River Chinook by Industry Sector

	Hydroelectric Power Generation [1]	Water Supply and Irrigation Systems	Forestry and Logging	Beef Cattle Ranching and Farming	Highway, Street, and Bridge Construction	Electric Services/ Natural Gas Distribution [1]	Construction Sand and Gravel Mining	Utility Line Construction	Other Heavy and Civil Engineering and Construction	Land Sub-division	NPDES-Permitted Activities
Project Costs, All Entities ($)	7,375,591	636,150	10,659,024	560	194,056	505,631	266,667	90,947	3,562,114	103,676	770,017
No. of Small Entities	30	58	254	133	181	51	16	168	138	346	624
Small Entities as Percent of Total	100%	94%	96%	97%	95%	89%	86%	86%	95%	96%	77%
Project Costs, Small Entities	7,375,591	598,081	1,021,829	543	18,498	448,615	229,128	78,591	3,392,459	99,983	594,994
Costs per Small Entity ($)	244,220	10,243	4,026	4	102	8,825	14,335	467	24,658	289	954

Note: Cost estimates include all section 7 costs, including those co-extensive with the listing and designation of critical habitat for the ESU. Costs are presented on an annualized basis.

[1] All entities in the Hydroelectric Power Generation and Electric Services sectors are assumed to be small entities. Consequently, the compliance costs for these sectors represents an upper bound estimate. The number of small entities in the hydroelectric power generation and electrical services industries is unknown because of the unavailability of data related to small business thresholds. For both of these industry sectors the SBA defines a firm as "small" if, including its affiliates, it is primarily engaged in the generation, transmission, and/or distribution of electric energy for sale, and its total electric output for the preceding fiscal year did not exceed 4 million megawatt hours. It was not possible to locate a source that provides this information for all regulated entities within these sectors.

Table 41. Estimated Annual Economic Impacts on Small Entities in Lower Columbia River Steelhead ESU by Industry Sector

	Hydroelectric Power Generation [1]	Water Supply and Irrigation Systems	Forestry and Logging	Beef Cattle Ranching and Farming	Highway, Street, and Bridge Construction	Electric Services/ Natural Gas Distribution [1]	Construction Sand and Gravel Mining	Utility Line Construction	Other Heavy and Civil Engineering and Construction	Land Sub-division	NPDES-Permitted Activities
Project Costs, All Entities ($)	8,125,012	1,208,685	9,009,903	273	944,788	277,876	720,000	2,102,814	3,629,846	135,457	463,971
No. of Small Entities	37	42	189	87	147	54	8	138	114	298	453
Small Entities as Percent of Total	100%	93%	95%	99%	95%	93%	69%	88%	96%	96%	79%
Project Costs, Small Entities	8,125,012	1,124,432	852,342	270	90,048	258,226	497,069	1,850,174	3,478,425	129,839	367,296
Costs per Small Entity ($)	219,975	26,470	4,505	3	614	4,817	65,199	13,370	30,457	436	810

Note: Cost estimates include all section 7 costs, including those co-extensive with the listing and designation of critical habitat for the ESU. Costs are presented on an annualized basis.

[1] All entities in the Hydroelectric Power Generation and Electric Services sectors are assumed to be small entities. Consequently, the compliance costs for these sectors represents an upper bound estimate. The number of small entities in the hydroelectric power generation and electrical services industries is unknown because of the unavailability of data related to small business thresholds. For both of these industry sectors the SBA defines a firm as "small" if, including its affiliates, it is primarily engaged in the generation, transmission, and/or distribution of electric energy for sale, and its total electric output for the preceding fiscal year did not exceed 4 million megawatt hours. It was not possible to locate a source that provides this information for all regulated entities within these sectors.

Table 42. Estimated Annual Economic Impacts on Small Entities in Lower Columbia River Chinook Salmon ESU by Industry Sector

	Hydroelectric Power Generation [1]	Water Supply and Irrigation Systems	Forestry and Logging	Beef Cattle Ranching and Farming	Highway, Street, and Bridge Construction	Electric Services/ Natural Gas Distribution [1]	Construction Sand and Gravel Mining	Utility Line Construction	Other Heavy and Civil Engineering and Construction	Land Sub-division	NPDES-Permitted Activities
Project Costs, All Entities ($)	8,110,504	1,251,095	8,046,793	360	1,071,034	277,876	826,667	2,270,879	3,629,846	139,383	489,729
No. of Small Entities	21	45	219	107	165	32	11	121	118	195	415
Small Entities as Percent of Total	100%	92%	95%	98%	97%	90%	85%	90%	96%	96%	80%
Project Costs, Small Entities	8,110,504	1,150,844	768,187	354	103,586	250,598	704,718	2,040,477	3,491,233	134,086	391,046
Costs per Small Entity ($)	383,853	25,621	3,507	3	629	7,751	63,926	16,860	29,523	689	942

Note: Cost estimates include all section 7 costs, including those co-extensive with the listing and designation of critical habitat for the ESU. Costs are presented on an annualized basis.

[1] All entities in the Hydroelectric Power Generation and Electric Services sectors are assumed to be small entities. Consequently, the compliance costs for these sectors represents an upper bound estimate. The number of small entities in the hydroelectric power generation and electrical services industries is unknown because of the unavailability of data related to small business thresholds. For both of these industry sectors the SBA defines a firm as "small" if, including its affiliates, it is primarily engaged in the generation, transmission, and/or distribution of electric energy for sale, and its total electric output for the preceding fiscal year did not exceed 4 million megawatt hours. It was not possible to locate a source that provides this information for all regulated entities within these sectors.

Table 43. Estimated Annual Economic Impacts on Small Entities in Columbia River Chum Salmon ESU by Industry Sector

	Hydroelectric Power Generation [1]	Water Supply and Irrigation Systems	Forestry and Logging	Beef Cattle Ranching and Farming	Highway, Street, and Bridge Construction	Electric Services/ Natural Gas Distribution [1]	Construction Sand and Gravel Mining	Utility Line Construction	Other Heavy and Civil Engineering and Construction	Land Sub-division	NPDES-Permitted Activities
Project Costs, All Entities ($)	1,579,683	508,920	1,956,308	101	815,893	227,250	400,000	5,341,000	2,873,500	16,104	329,659
No. of Small Entities	14	7	181	70	113	22	7	64	80	100	239
Small Entities as Percent of Total	100%	84%	95%	100%	95%	90%	69%	90%	96%	94%	80%
Project Costs, Small Entities	1,579,683	428,005	185,776	101	77,887	204,281	275,235	4,821,501	2,769,271	15,143	265,048
Costs per Small Entity ($)	110,832	58,271	1,028	1	687	9,186	41,521	75,591	34,705	151	1,109

Note: Cost estimates include all section 7 costs, including those co-extensive with the listing and designation of critical habitat for the ESU. Costs are presented on an annualized basis.

[1] All entities in the Hydroelectric Power Generation and Electric Services sectors are assumed to be small entities. Consequently, the compliance costs for these sectors represents an upper bound estimate. The number of small entities in the hydroelectric power generation and electrical services industries is unknown because of the unavailability of data related to small business thresholds. For both of these industry sectors the SBA defines a firm as "small" if, including its affiliates, it is primarily engaged in the generation, transmission, and/or distribution of electric energy for sale, and its total electric output for the preceding fiscal year did not exceed 4 million megawatt hours. It was not possible to locate a source that provides this information for all regulated entities within these sectors.

Table 44. Estimated Annual Economic Impacts on Small Entities in Ozette Lake Sockeye Salmon ESU by Industry Sector

	Hydroelectric Power Generation [1]	Water Supply and Irrigation Systems	Forestry and Logging	Beef Cattle Ranching and Farming	Highway, Street, and Bridge Construction	Electric Services/ Natural Gas Distribution [1]	Construction Sand and Gravel Mining	Utility Line Construction	Other Heavy and Civil Engineering and Construction	Land Sub-division	NPDES-Permitted Activities
Project Costs, All Entities ($)	0	0	0	0	0	0	0	0	0	0	2,720
No. of Small Entities	0	0	0	0	0	0	0	0	0	0	0
Small Entities as Percent of Total	100%	100%	99%	100%	96%	100%	100%	106%	100%	100%	87%
Project Costs, Small Entities	0	0	0	0	0	0	0	0	0	0	2,375
Costs per Small Entity ($)	0	0	0	0	0	0	0	0	0	0	29,082

Note: Cost estimates include all section 7 costs, including those co-extensive with the listing and designation of critical habitat for the ESU. Costs are presented on an annualized basis.

[1] All entities in the Hydroelectric Power Generation and Electric Services sectors are assumed to be small entities. Consequently, the compliance costs for these sectors represents an upper bound estimate. The number of small entities in the hydroelectric power generation and electrical services industries is unknown because of the unavailability of data related to small business thresholds. For both of these industry sectors the SBA defines a firm as "small" if, including its affiliates, it is primarily engaged in the generation, transmission, and/or distribution of electric energy for sale, and its total electric output for the preceding fiscal year did not exceed 4 million megawatt hours. It was not possible to locate a source that provides this information for all regulated entities within these sectors.

Table 45. Estimated Annual Economic Impacts on Small Entities in Hood Canal Summer-run Chum Salmon ESU by Industry Sector

	Hydroelectric Power Generation [1]	Water Supply and Irrigation Systems	Forestry and Logging	Beef Cattle Ranching and Farming	Highway, Street, and Bridge Construction	Electric Services/ Natural Gas Distribution [1]	Construction Sand and Gravel Mining	Utility Line Construction	Other Heavy and Civil Engineering and Construction	Land Sub-division	NPDES-Permitted Activities
Project Costs, All Entities ($)	31,808	392,293	1,257,142	0	39,900	75,750	133,333	3,174,625	1,436,750	1,839	87,040
No. of Small Entities	5	8	53	6	19	7	1	23	25	14	72
Small Entities as Percent of Total	100%	99%	94%	100%	96%	99%	88%	97%	98%	99%	88%
Project Costs, Small Entities	31,808	387,736	118,399	0	3,848	74,701	117,030	3,087,221	1,409,532	1,814	76,952
Costs per Small Entity ($)	6,145	47,393	2,250	0	201	10,917	169,583	133,462	56,622	126	1,063

Note: Cost estimates include all section 7 costs, including those co-extensive with the listing and designation of critical habitat for the ESU. Costs are presented on an annualized basis.

[1] All entities in the Hydroelectric Power Generation and Electric Services sectors are assumed to be small entities. Consequently, the compliance costs for these sectors represents an upper bound estimate. The number of small entities in the hydroelectric power generation and electrical services industries is unknown because of the unavailability of data related to small business thresholds. For both of these industry sectors the SBA defines a firm as "small" if, including its affiliates, it is primarily engaged in the generation, transmission, and/or distribution of electric energy for sale, and its total electric output for the preceding fiscal year did not exceed 4 million megawatt hours. It was not possible to locate a source that provides this information for all regulated entities within these sectors.

Table 46. Estimated Annual Economic Impacts on Small Entities in Upper Columbia River Spring-run Chinook Salmon ESU by Industry Sector

	Hydroelectric Power Generation [1]	Water Supply and Irrigation Systems	Forestry and Logging	Beef Cattle Ranching and Farming	Highway, Street, and Bridge Construction	Electric Services/ Natural Gas Distribution [1]	Construction Sand and Gravel Mining	Utility Line Construction	Other Heavy and Civil Engineering and Construction	Land Sub-division	NPDES-Permitted Activities
Project Costs, All Entities ($)	63,615	116,628	6,701,338	308	31,886	328,376	133,333	4,346,375	1,505,509	0	283,665
No. of Small Entities	14	31	39	76	44	23	2	33	27	32	100
Small Entities as Percent of Total	100%	93%	96%	98%	95%	89%	93%	87%	96%	95%	79%
Project Costs, Small Entities	63,615	108,508	643,807	301	3,034	291,967	123,531	3,767,647	1,444,309	0	222,890
Costs per Small Entity ($)	4,700	3,521	16,654	4	70	12,486	63,826	114,970	52,801	0	2,227

Note: Cost estimates include all section 7 costs, including those co-extensive with the listing and designation of critical habitat for the ESU. Costs are presented on an annualized basis.

[1] All entities in the Hydroelectric Power Generation and Electric Services sectors are assumed to be small entities. Consequently, the compliance costs for these sectors represents an upper bound estimate. The number of small entities in the hydroelectric power generation and electrical services industries is unknown because of the unavailability of data related to small business thresholds. For both of these industry sectors the SBA defines a firm as "small" if, including its affiliates, it is primarily engaged in the generation, transmission, and/or distribution of electric energy for sale, and its total electric output for the preceding fiscal year did not exceed 4 million megawatt hours. It was not possible to locate a source that provides this information for all regulated entities within these sectors.

Table 47. Estimated Annual Economic Impacts on Small Entities in Upper Columbia River Steelhead ESU by Industry Sector

	Hydroelectric Power Generation [1]	Water Supply and Irrigation Systems	Forestry and Logging	Beef Cattle Ranching and Farming	Highway, Street, and Bridge Construction	Electric Services/ Natural Gas Distribution [1]	Construction Sand and Gravel Mining	Utility Line Construction	Other Heavy and Civil Engineering and Construction	Land Sub-division	NPDES-Permitted Activities
Project Costs, All Entities ($)	63,615	1,600,978	9,471,497	619	65,133	353,626	453,333	4,823,250	1,710,759	919	299,985
No. of Small Entities	18	42	56	102	52	30	2	42	30	39	120
Small Entities as Percent of Total	100%	94%	95%	98%	96%	90%	93%	89%	96%	96%	79%
Project Costs, Small Entities	63,615	1,505,426	901,112	606	6,229	318,463	420,005	4,283,896	1,644,084	880	236,750
Costs per Small Entity ($)	3,571	36,243	16,034	6	120	10,662	217,010	102,633	55,064	23	1,965

Note: Cost estimates include all section 7 costs, including those co-extensive with the listing and designation of critical habitat for the ESU. Costs are presented on an annualized basis.

[1] All entities in the Hydroelectric Power Generation and Electric Services sectors are assumed to be small entities. Consequently, the compliance costs for these sectors represents an upper bound estimate. The number of small entities in the hydroelectric power generation and electrical services industries is unknown because of the unavailability of data related to small business thresholds. For both of these industry sectors the SBA defines a firm as "small" if, including its affiliates, it is primarily engaged in the generation, transmission, and/or distribution of electric energy for sale, and its total electric output for the preceding fiscal year did not exceed 4 million megawatt hours. It was not possible to locate a source that provides this information for all regulated entities within these sectors.

Table 48. Estimated Annual Economic Impacts on Small Entities in Middle Columbia River Steelhead ESU by Industry Sector

	Hydroelectric Power Generation [1]	Water Supply and Irrigation Systems	Forestry and Logging	Beef Cattle Ranching and Farming	Highway, Street, and Bridge Construction	Electric Services/ Natural Gas Distribution [1]	Construction Sand and Gravel Mining	Utility Line Construction	Other Heavy and Civil Engineering and Construction	Land Sub-division	NPDES-Permitted Activities
Project Costs, All Entities ($)	2,040,816	2,671,830	17,900,893	741	789,874	565,853	533,333	3,463,611	4,270,226	17,957	572,173
No. of Small Entities	30	63	132	272	109	49	6	79	71	74	260
Small Entities as Percent of Total	100%	96%	94%	96%	97%	86%	86%	89%	98%	96%	73%
Project Costs, Small Entities	2,040,816	2,553,030	1,676,415	708	76,229	487,775	460,208	3,089,185	4,167,708	17,227	418,185
Costs per Small Entity ($)	67,239	40,523	12,683	3	701	10,052	74,749	39,101	58,528	234	1,611

Note: Cost estimates include all section 7 costs, including those co-extensive with the listing and designation of critical habitat for the ESU. Costs are presented on an annualized basis.

[1] All entities in the Hydroelectric Power Generation and Electric Services sectors are assumed to be small entities. Consequently, the compliance costs for these sectors represents an upper bound estimate. The number of small entities in the hydroelectric power generation and electrical services industries is unknown because of the unavailability of data related to small business thresholds. For both of these industry sectors the SBA defines a firm as "small" if, including its affiliates, it is primarily engaged in the generation, transmission, and/or distribution of electric energy for sale, and its total electric output for the preceding fiscal year did not exceed 4 million megawatt hours. It was not possible to locate a source that provides this information for all regulated entities within these sectors.

Table 49. Estimated Annual Economic Impacts on Small Entities in Puget Sound Chinook Salmon ESU by Industry Sector

	Hydroelectric Power Generation [1]	Water Supply and Irrigation Systems	Forestry and Logging	Beef Cattle Ranching and Farming	Highway, Street, and Bridge Construction	Electric Services/ Natural Gas Distribution [1]	Construction Sand and Gravel Mining	Utility Line Construction	Other Heavy and Civil Engineering and Construction	Land Sub-division	NPDES-Permitted Activities
Project Costs, All Entities ($)	18,591,892	2,671,830	10,274,275	317	986,869	1,616,000	186,667	31,201,250	9,031,000	40,448	787,651
No. of Small Entities	34	70	176	66	244	52	17	265	232	550	1,014
Small Entities as Percent of Total	100%	91%	82%	98%	93%	86%	92%	89%	95%	91%	82%
Project Costs, Small Entities	18,591,892	2,426,453	842,505	310	91,829	1,385,849	171,890	27,699,587	8,556,982	36,985	648,213
Costs per Small Entity ($)	548,099	34,606	4,781	5	377	26,685	10,221	104,420	36,902	67	639

Note: Cost estimates include all section 7 costs, including those co-extensive with the listing and designation of critical habitat for the ESU. Costs are presented on an annualized basis.

[1] All entities in the Hydroelectric Power Generation and Electric Services sectors are assumed to be small entities. Consequently, the compliance costs for these sectors represents an upper bound estimate. The number of small entities in the hydroelectric power generation and electrical services industries is unknown because of the unavailability of data related to small business thresholds. For both of these industry sectors the SBA defines a firm as "small" if, including its affiliates, it is primarily engaged in the generation, transmission, and/or distribution of electric energy for sale, and its total electric output for the preceding fiscal year did not exceed 4 million megawatt hours. It was not possible to locate a source that provides this information for all regulated entities within these sectors.

Table 50. Estimated Annual Economic Impacts on Small Entities in Snake River Basin Steelhead ESU by Industry Sector

	Hydroelectric Power Generation [1]	Water Supply and Irrigation Systems	Forestry and Logging	Beef Cattle Ranching and Farming	Highway, Street, and Bridge Construction	Electric Services/ Natural Gas Distribution [1]	Construction Sand and Gravel Mining	Utility Line Construction	Other Heavy and Civil Engineering and Construction	Land Sub-division	NPDES-Permitted Activities
Project Costs, All Entities ($)	381,690	1,441,940	22,585,523	3,264	353,200	513,585	133,333	5,487,264	3,763,259	38,913	345,979
No. of Small Entities	14	35	147	224	69	26	4	51	45	45	152
Small Entities as Percent of Total	100%	94%	97%	96%	96%	92%	96%	89%	98%	94%	81%
Project Costs, Small Entities	381,690	1,358,738	2,189,507	3,128	33,833	470,357	127,833	4,904,820	3,702,785	36,680	280,059
Costs per Small Entity ($)	26,736	39,233	14,938	14	488	18,191	35,784	97,100	81,592	823	1,845

Note: Cost estimates include all section 7 costs, including those co-extensive with the listing and designation of critical habitat for the ESU. Costs are presented on an annualized basis.

[1] All entities in the Hydroelectric Power Generation and Electric Services sectors are assumed to be small entities. Consequently, the compliance costs for these sectors represents an upper bound estimate. The number of small entities in the hydroelectric power generation and electrical services industries is unknown because of the unavailability of data related to small business thresholds. For both of these industry sectors the SBA defines a firm as "small" if, including its affiliates, it is primarily engaged in the generation, transmission, and/or distribution of electric energy for sale, and its total electric output for the preceding fiscal year did not exceed 4 million megawatt hours. It was not possible to locate a source that provides this information for all regulated entities within these sectors.

Appendix C: Estimates of the Profits of Small Entities by Industry Sector

The purpose of this appendix is to describe how the analysis estimated the profitability of small businesses to which the proposed rule will apply.

Standardized industry information was used to estimate profit margins for businesses in each sector. The two sources for business profitability information were Risk Management Association's (RMA's) *Annual Statement Studies* and IMPLAN, an economic input-output software packaged developed by MIG, Inc.

The *Annual Statement Studies* published by RMA provides an annual set of financial ratio benchmarks for a diverse group of industries. The financial data is standardized across the entire U.S. and is grouped by either sales or asset ranges. This analysis used the sales range figures, as the SBA size standards for most of the industry sectors to which the proposed rule will apply are based on average annual receipts. RMA's profit margins served as an estimate of the average business' annual profitability for each sector.

Technical coefficients provided in IMPLAN were used to estimate the profitability of firms in those sectors for which information was not available from the *Annual Statement Studies*. IMPLAN's technical coefficients are based on national production function data developed by the U.S. Bureau of Economic Analysis in 1997. IMPLAN data provides, among other measures of economic activity, industry output, number of employees, and proprietors' income. In this analysis proprietors' income was divided by the total industry output to estimate profit margins for businesses in each industry sector. The total output and number of employees was also used in developing sales estimates for small businesses in sectors where size was defined based on the number of employees.

Economic information compiled for 18 industry sectors was consolidated to match the 12 industry groupings identified for this analysis. Profit margins were calculated as simple averages. Sales levels were calculated as weighted averages based on sales for each sub-industry and the number of business identified in each sector based on State of Washington data from the 1997 U.S. Census Bureau, Economic Census.